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ORIGINAL LECTURES.

PULMONARY APOPLEXY.

A Clinical Lecture delivered at Rush Medical College, Chicago.

BY E. FLETCHER INGALS, M.D.

(Reported by G. B. NICHOLS.)

GENTLEMEN: P. R., the patient whom I present this morning, is forty-four years of age. He has of late been employed as driver on a street car.

He tells us that six weeks ago he was taken sick after exposure for nearly two days to wet and cold. He had been thoroughly drenched with rain and had worn the same wet clothing the following day and until he retired at two o'clock at night. Two hours after going to bed he was awakened by "terrible pain" in the right side, near the nipple. He was very chilly; felt sick at his stomach, and found his face covered with blood, which came from his lung.

He continued spitting clear blood for about twenty hours, raising in all about a pint; for two days later some blood was expectorated at intervals. Subsequently he was very weak, had night sweats, and for four weeks was unable to lie down. He does not know whether he had fever or not.

Upon inquiry into his previous history, we learn that he had been troubled with cough for four months before this attack, and that for twelve weeks it had been very annoying, though not sufficient to interfere with his work. He cannot recollect having been sick at any time previous during his life excepting once, twenty-two years ago, when he was laid up with rheumatism for fifteen weeks. His parents and grandparents were long-lived, attaining an average age of about eighty years. We learn that for six months previous to this attack the patient has been working about eighteen hours every day. Since this attack he has lost some flesh.

At present we find the skin moist, cool, and of a natural color; the pulse 124 per minute, with a peculiar quick and hard stroke, which becomes harder and more decided by elevating the arm. The frequent interruptions in his conversation are due to dyspnœa, which he tells us has troubled him for nine weeks. He has very little cough and no expectoration. The tongue is clean, excepting a thin yellowish coating at the base. The pharynx is natural. The appetite has been good throughout his sickness; the bowels are regular, and the urine normal as far as appearances go.

Upon inspecting the patient we observe marked pulsation in the carotid and subclavian arteries, with epigastric pulsations. In the præcordial region the impulse of the heart is seen over an area of at least four inches in diameter.

The vocal fremitus is alike on both sides over the upper part of the chest, but it is not felt over the lower part of the right side.

On percussion of the upper part of the chest, both sides are alike. Over the præcordia the area of dulness is larger than usual, indicating considerable dilatation of the heart; but this organ is not displaced. On the right side, in front, the pulmonary resonance extends down to the sixth rib, its normal position.

Posteriorly over the scapula and in the interscapular regions, the resonance is alike on both sides. In the lower part of the infrascapular region, on the left side, we obtain dulness. On the right side, in the infrascapular region, there is complete flatness.

On auscultation over the anterior portion of the chest, at the upper part, I find feeble respiration on the right side and normal respiration on the left. Over the lower portion of the left side, both anteriorly and posteriorly, there are crepitant and subcrepitant râles. Over the lower portion of the right side I find a feeble respiratory murmur, extending down to the sixth rib in front, and following the course of that rib behind; below this I do not hear the respiratory murmur at all; but I get fine crepitant sounds, less numerous than on the left side and nearer to the surface. These are probably friction sounds.

The vocal resonance is normal over the left lung and over the upper part of the right. It is very distinct over the whole lower lobe of the right lung, but it is not uniform, there being spots where it is less intense than over the surrounding tissue. There are no tubular sounds.

In listening over the carotid and subclavian arteries, I hear murmurs on both sides, which result from some cardiac lesion. Over the heart a murmur may be heard at the apex, which grows more and more intense as the stethoscope is carried toward the base, until the articulation of the fifth costal cartilage with the sternum is reached. At this point it is louder than anywhere else. The murmur is very distinct in the second intercostal space on the right side and over the second rib and beneath the clavicle on the left side.

With my finger on the carotid pulse, I find that it occurs synchronously with the diastole of the heart.

This case presents an unusual group of signs. The feeble respiratory murmur over the upper part of the right side indicates that the upper lobe of this lung has in some way been involved, and if we were to examine the upper part of the chest alone, this sign, together with the hæmoptysis, would be taken as conclusive evidence of incipient phthisis; but his hereditary and personal history, together with the signs over other parts of the chest, and the absence of cough, render such a diagnosis untenable.

The flatness over the lower part of the right lung would lead us at once to suspect pleuritic effusion, but the exaggerated vocal resonance and the slight cripitating friction sounds over the same region, together with the fact that the upper line of flatness does not change with changes in the position of the patient's body, are sufficient proof that there is not, at present, a collection of fluid in the pleural sac.

The history of the origin of this attack, and the opinion of the most excellent physician who attended him at that time, ought, perhaps, to satisfy us with the original diagnosis of pneumonia. Yet this does not cover the whole case. No doubt the lung was inflamed at first, but there must have been something more than an ordinary inflammation to account for the profuse hæmoptysis, and the marked signs which we find to-day, after six weeks have elapsed.

The crepitant râles which we hear to-day in the left lung might be taken as a sign of acute inflammation of that organ, but the absence of fever, and the patient's general condition, indicate that an acute pneumonia cannot be present.

We have found in this case certain signs which, considered separately, might be taken as conclusive evidence of phthisis, pleurisy, or pneumonia, but which in

the case before us do not point directly to any of these diseases.

Were we obliged to stop here, in our examination, it would be impossible to satisfactorily account for the condition of this man's lungs, but the cardiac lesions which we have discovered, *i.e.*, enlargement of the organ, with aortic insufficiency, throw a flood of light upon the case.

When we first questioned this patient, he told us that he had never before been sick. We were then at loss to account for the cardiac lesions, but by critical questioning, we at length brought to his recollection a severe attack of rheumatism, which occurred twenty-two years ago. However, he persists in the statement that subsequently to that time he had never been sick, nor experienced any difficulty in respiration until within the last few months.

Two interesting questions are suggested by this statement. 1st. Did the rheumatism cause the cardiac disease? and 2d. In case the heart lesion resulted from the rheumatism, how soon thereafter did it appear, and why did it not sooner produce subjective symptoms?

To the first query, I answer, the rheumatism undoubtedly was the cause of the cardiac lesion, for since that time there has been no sickness or accident which would be at all likely to produce such a result, until very recently, and the changes are now much greater than would be found if the affection were of short duration.

To the second question, I answer, that probably if this patient had been examined twenty-one years ago, an aortic obstructive murmur would have been detected, and doubtless the same might have been found at almost any time thereafter.

I often discover cardiac lesions in patients who have not presented a single subjective symptom, and who apply to me for some trifling affection of the bronchial tubes. In such cases I usually find that the apparent cause has antedated the discovery by several years. Such cases present no subjective symptoms, because nature compensates for the lesions by hypertrophy of the heart. In the case before us, there may have been no regurgitation, until the ventricles became much distended, by reason of his excessive work during the last six months, but of this, we cannot be certain.

We may, however, be sure that the lesion was fully compensated for by the hypertrophy, until his long hours of work and short hours of rest weakened the muscular system, so that the evil effects of a crippled heart were manifested by such symptoms as cough and dyspnœa.

The cardiac lesion enables us to understand the cripitant and subscrepitant râles and slight dulness which are found to-day on the left side, as a result of pulmonary œdema; but there must be some other explanation for the signs found over the right lung.

Recurring to the history, we find that after prolonged exposure, and while suffering from a severe cold, the patient was wakened with severe pain in the side and hæmoptysis. From this, and a physical examination of the chest, I conclude that the congestion and swelling of the lining membrane of the air passages, caused by the cold, so interfered with the passage of blood through the pulmonary circuit, that the weakened heart was unable to perform its function. Consequently its action became sluggish and irregular; as a result, clots were formed in the right side, particles of which became detached, and were carried through the pulmonary arteries, until they finally lodged in and occluded the capillaries, the thin walls of which were thus subjected to the same distending force from behind, as the larger arteries. Rupture naturally resulted, the blood diffused itself through the air-cells and bronchioles of the lobules, causing what is termed hemorrhagic infarction, or circumscribed pulmonary apoplexy. The blood which found its way into the larger bronchial tubes was expectorated.

The hemorrhage and the pain were much greater than common in such cases.

Lesions of this kind usually occur in the upper part of the lower lobe of the lung. The hemorrhage is apt to take place from several points, forming, when the blood coagulates, several distinct nodules, varying in size, but seldom larger than a hen's egg, and most of them much smaller. Because of their small size and deep location, they do not usually occasion complete loss of motion and flatness over the affected portion of the lung; but in rare cases the lung tissue itself is lacerated, and a large amount of blood escapes, thus causing diffused pulmonary apoplexy, which is apt to be attended by considerable hemorrhage and severe pain, as in this case.

The laceration of the lung and pressure of blood upon the pleura caused the acute pain at the time of the accident, and eventuated in pneumonia and pleurisy.

As a result of the pleurisy, the whole lung was compressed for a time, and the patient was unable to breathe in the recumbent position, but finally most of the fluid was absorbed, though too late to allow of free expansion of the upper lobe of the lung, hence the feeble respiration in that locality at present. The combined pressure from blood clots and pleuritic effusion with the inflammation of the pulmonary parenchyma, left the lower lobe of the right lung in a state of almost complete consolidation, which still remains.

The prognosis in pulmonary apoplexy depends upon the cause and extent of the lesion, and the previous condition of the patient. When circumscribed pulmonary apoplexy results from cardiac disease, the nodules are usually small, and as the emboli are simply fibrinous clots, the inflammation which follows is not of a destructive character; therefore many of these cases recover, providing the heart lesion is not extensive and the general health has not been impaired. In diffused pulmonary apoplexy, whether resulting from direct injury or rupture of a large infarction, the prognosis is very grave. In most cases death speedily follows, either from shock or hemorrhage; but should the patient survive these, abscess or gangrene of the lung is likely to carry him off in a few days.

In the case before us, the shock, the hemorrhage, and the danger of gangrene have been safely passed, and, were the heart lesions less severe, we might fairly predict several years of life; but here the aortic regurgitation is marked, the heart is considerably dilated, and pulmonary œdema is already present; besides the function of the right lung is very imperfectly performed. Our prognosis, therefore, cannot be very favorable; nevertheless, the patient's general condition is so good, that I expect great improvement for the present, and possibly fairly comfortable existence for a number of months.

I will give this man ten minims of the tincture of digitalis, four times a day, to strengthen his heart, and if this is not sufficient, I will gradually increase the dose to fifteen or twenty minims, providing it does not cause disturbance of the stomach and his kidneys continue to act well. I will also give him three times a day the twenty-fourth of a grain of sulphate of strychnia as a respiratory and cardiac stimulant, and ten minims of the tincture of the chloride of iron, to improve the character of the blood.

His appetite is good, and the kidneys are acting well, so that apart from the treatment indicated, we will only find it necessary to keep the bowels regular. For this purpose I know of no remedy which acts better when cardiac diseases exist than some of the preparations of

euonymus (wahoo). I have generally employed the fluid extract in doses of half a drachm, but it is said that the eclectic preparation, known as euonymine, acts equally well. The dose of the latter is from half a grain to five grains.

ORIGINAL ARTICLES.

IS TUBERCULOSIS A PARASITIC DISEASE?

THIRD PAPER.

BY GEORGE M. STERNBERG, M.D.,
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IN my second paper I reported my failure to find bacilli responding to Koch's color-test in specimens of sputum furnished me by Prof. Hirschfelder as coming from tuberculous patients. I have since found the bacillus described by the method of Ehrlich in the sputum of several phthisical patients.

This method seems to possess decided advantages over that first recommended by Koch, and we learn from the journals that he has himself adopted it.

Whether failure in the first instance was due to the absence of these bacilli from the material examined or to the difficulty of demonstrating them by Koch's method, it is, of course, impossible to say. But as my experiments upon animals inoculated with this material have also been attended with a negative result, it seems fair to assume, as suggested when the examination was made, that the material was not of the right kind.

In the *British Medical Journal* (July 1, 1882, p. 7), I find the following statement in a lecture on the Antiseptic Treatment of Pulmonary Consumption by Burney Yeo, M.D., F.R.C.P. "I have lately had careful search made by very competent workers with the microscope, in the expectoration of patients with advanced phthisis, as well as in sections of typical tuberculous mesenteric glands; but they have not yet succeeded in finding the organisms described by Koch."

It hardly seems probable that these negative results are entirely due to inexperience in the application of Koch's method, as his directions are very explicit and there is no difficulty in following them with precision. But, if all cases of consumption of the lung were tuberculous, which is probably not true, it does not follow that the sputa of phthisical patients comes at all times from the tuberculous portion of the lungs; for these patients as well as others are subject to pneumonia or to bronchial catarrh.

In my first experiments upon rabbits the material was introduced into the subcutaneous connective tissue through a narrow opening in the skin, made with a sharp instrument. The inoculation was made at the side of the neck, and from two to five minims of the viscid sputum was introduced by means of a grooved director or a silver probe.

Experiment No. 1, May 26, 1882.—Three half-grown rabbits were inoculated as above described with the sputa of three patients in the City Hospital, procured for me by Prof. Hirschfelder for these experiments and believed to be from tuberculous patients. On June 2d, one of these rabbits received a second inoculation with tuberculous material from a portion of lung obtained the same day at a post-mortem examination made at the City Hospital. This material was carefully examined by Koch's method with a negative result so far as the presence of the bacillus described by him is concerned.

No noticeable result followed these inoculations, with the exception of the formation of a circumscribed abscess, of small size, at the point of insertion, in one of them. The animals continued to eat well and to grow in size, without losing flesh. On the 2d of July these rabbits were killed and carefully examined. The lungs and other organs appeared perfectly normal, and no evidence of tubercular deposit was found in these, or in the serous membranes.

Experiment No. 2, May 30.—A large full-grown rabbit was inoculated as before, with sputum obtained the same day from Prof. Hirschfelder, and believed to be from a tuberculous patient. An abscess formed at the point of insertion, which was opened June 17th, and the cheesy contents examined by Koch's method, with a negative result, as regards the presence of *Bacillus tuberculosis*.

This animal was killed July 15th, and carefully examined, but no evidence of tubercular deposit in the lungs or elsewhere could be discovered.

July 29. — A fresh specimen of sputum was obtained from Prof. Hirschfelder this day, and carefully examined both by Koch's and by Baumgarten's method. A few bacilli were seen by Baumgarten's method, which possibly respond to the test—failure to stain by methyl violet, after treatment with solution of potash—but the result is not considered satisfactory, as the bacilli referred to appear to have less color than others in the same preparation, because of their smaller diameter, rather than to be entirely without color. The possibility of mistaking the contour of the nuclei of pus-cells for bacilli is more than ever apparent.

August 8. — Received from Prof. Hirschfelder a supply of aniline oil, and a fresh specimen of sputum from a case pronounced undoubtedly tubercular consumption.

By the method of Ehrlich, the presence in this specimen of bacilli, which retain their color when treated with nitric acid after being stained with fuchsin, was clearly demonstrated. This color-test is very definite, and distinguishes clearly these bacilli from other micro-organisms—bacilli and micrococci—also present in the same preparation. The latter are entirely colorless, while the former are deeply stained by the fuchsin. As stated by Koch, this color is still more apparent, when the condensing lens is moved forward, so as to strongly illuminate the field. *Pseudo-bacilli* may also be seen, which, by careful focusing, are resolved into the line of junction of two cells in juxtaposition, or the margins of cell-nuclei.

Having found in the sputum of a tuberculous patient the bacilli described by Koch, the next step seemed to be to ascertain whether, by the same method, similar bacilli might not be demonstrated in non-tuberculous sputa. My own saliva or a small mass of muco-pus coughed up from my lungs—I have a slight bronchial catarrh—did not contain bacilli responding to the color-test.

August 10.—At my request, Prof. Hirschfelder procured for me eight samples of sputum, some from tubercular and some from non-tubercular patients, the diagnosis not being communicated to me, as I desired to ascertain whether my report with reference to the presence of Koch's bacillus would correspond with his diagnosis of the cases. The bacillus was found in three specimens, and Dr. Hirschfelder subsequently informed me that these came from phthisical patients, but that three other specimens, from which I obtained a negative result, were also from cases of the same character, while two were from non-tubercular patients. Having received all of these specimens at once, I only found time to mount one slide of each, while the material was fresh, and consequently do not consider my negative result in the three cases pronounced tubercular as evidence of the absence of the bacillus from these specimens. It is evident, for reasons already given, that repeated examinations would be required to definitely establish the absence of the bacillus, although its presence may be demonstrated by a single preparation.

12th.—Received a specimen of sputum from a case in the post hospital at Angel Island, Cal., diagnosed by Surgeon Brooke, U. S. A., as pulmonary consumption. Four slides were prepared, Ehrlich's method, and the bacillus of Koch was found in all in greater abundance than in specimens previously examined.

14th.—Recieved a specimen of sputum from a patient of my own, a married woman living in the suburbs of San Francisco, whose case was diagnosed by me as consumption several months since. There is evidence of tubercular deposit at the apex of left lung, several hemorrhages have occurred, and a distressing cough in the morning results in the expectoration of a solid, greenish-yellow mass. At my request, this morning expectoration was received in a clean, wide-mouthed bottle, and sent to me at once. Microscopical examination of preparations, stained by Ehrlich's method, demonstrated the presence of Koch's bacilli.

Note.—The following animals have been inoculated with sputum from this and the preceding (Dr. Brooke's) case, viz., four rabbits, one guinea-pig, and a pup six weeks old. The results of these inoculations will be reported in a future communication.

As to the abundance of these bacilli in the specimens of sputum examined, I may say that they are not very abundant. While common forms which are decolorized by the action of nitric acid, are often found in considerable numbers, these deeply-stained bacilli are usually solitary, or, at most, but four or five are seen in a single field. They appear either within, or external to, the pus-cells. It is probable that in the former case they are sometimes only covered by the cells, which are flattened out by the drying and heating process to which the preparation is subjected. Indeed it would be difficult, from a mere inspection, to decide with certainty whether this is the case, or whether they are actually within the cells. The fact that several are sometimes found within a single cell, while those without are commonly solitary, indicates, however, that they are sometimes at least enclosed within the cells, and, therefore, in all probability, developed in this situation. They are most easily seen in fields where the material is spread out very thin, and in which the pus-cells do not overlie each other and have been thoroughly decolorized by the nitric acid bath.

MORPHOLOGY.

Koch describes the bacilli of tuberculosis as follows:

"They are very thin, and from one-fourth to one-half as long as the diameter of a red blood-corpuscle. They may also be longer, sometimes they even reach the length of the full diameter of a blood-corpuscle." (*Berliner klinische Wochenschrift*, No. 15, p. 222, 1882.)

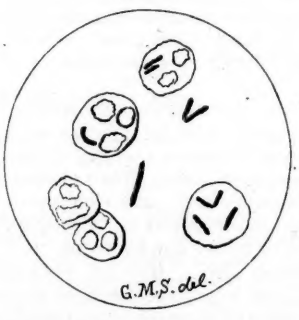
"The tubercle bacilli are at least five times as long as thick, and often much longer in proportion to their thickness" (*l. c.*, p. 223).

"The bacilli may also be examined without staining. In this case it is necessary to have a specimen containing a considerable number; for example, from a gray tubercular nodule from the lung of an inoculated guinea-pig. A little of this material may be mixed with distilled water or blood-serum. . . . The bacilli appear then as very small rods which show only molecular movement, but not the slightest spontaneous movement. Under certain circumstances the bacilli, later, show spores, in the animal body, and, indeed, most of the bacilli have two to four oval spores, which are arranged at equal distances along their length" (*l. c.*, p. 222).

This description answers perfectly for the bacilli seen by me, but scarcely serves to distinguish these from others, which are commonly found in localities which preclude the idea that they are pathogenic, at least not under ordinary circumstances. (See Figs. 2 and 4.)

With my Zeiss' $\frac{1}{18}$ nom. ol. im. objective, I have been able to distinguish the oval spores described by Koch in a few of the rods seen in my preparation. Not infrequently in the longer rods a slight constriction is seen at the middle, and in some cases the rod is bent at an acute angle at this point, as seen in my drawing, Fig. 1. This is no doubt the result of spontaneous fusion, and indicates that this bacillus, like other micro-organisms of its class, multiplies by division as well as by the formation of endogenous spores.

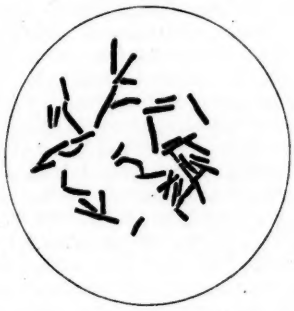
FIG. 1.



The rods are sometimes crescentic in shape, as shown in the pus-corpuscle containing a single one, Fig. 1. My attempts to photograph this bacillus have not been very successful, for the reason that the fuchsin-staining, although very decided optically, is apparently almost transparent for the actinic rays. I have had great difficulty in projecting an image which could be seen and focused on the screen. Moreover, in consequence of the small number to be found in a single field, this mode of illustration would not be satisfactory. I have, however, made several negatives, showing a single bacillus well enough to enable me to measure it and compare it with bacilli from other sources. This comparison shows that they do not present any morphological characters by which they can be distinguished with certainty. The bacilli shown in Fig. 3 resemble them very closely indeed, and, for aught I know, may be identical with them; for when this photograph was made, the color-test was not known.

The circumstances under which the bacilli represented in this figure were found have always made them possess a special interest for me, but, unfortunately, I was only able to verify their presence in

FIG. 2.



the unusual locality in which they were found, and to make photographs of them, as other pressing obligations prevented me from attempting to culti-

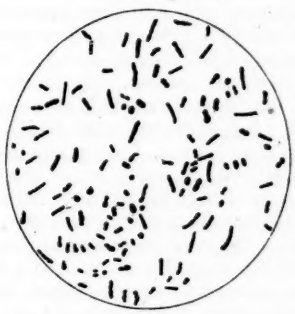
FIG. 3.

vate them and to experiment with reference to their possible pathogenic properties. They were found in the pericardial sac and in the substance of the heart of a rabbit which died as the result of a subcutaneous injection of contaminated water (No. 5), sent to the biological laboratory of Johns Hopkins University, by Prof. Mallet, of the University of Virginia, for this purpose, in connection with his experimental research (for the National Board of Health) upon drinking-water. I do not know to this day the source of this particular sample of water, but the results following its injection beneath the skin of a rabbit were very pronounced and differed from any previously obtained by me in similar experiments. The animal died within a few days after the injection, and upon post-mortem examination the pericardium was found to be inflamed and covered with fibrinous exudation, while in the substance of the heart there were numerous white-colored collections of a semi-solid material, which, upon microscopic examination, proved to contain the bacilli here figured. The serum contained in the pericardial sac also contained these bacilli in abundance.

Figure 2 shows bacilli also photographed in Baltimore from normal human saliva.

In Figure 4 we have bacilli and other bacterial forms, developed in Koch's staining fluid as stated in my previons paper (THE MEDICAL NEWS, July 22, p. 87). The amplification in this figure is but 500

FIG. 4.



diameters, while in Figures 1, 2, 3, and 5, it is 1000 diameters.

In Figure 5 we have again bacilli, which were

FIG. 5.

found upon a glass slip exposed over swamp-mud (artificial marsh) in my laboratory in New Orleans —summer of 1880. (*Vide* Special Report to Na-

tional Board of Health. *Supplement No. 14 to Nat. Board of Health Bulletin.*)

Figure 6 is from a photo-micrograph of *Bacillus anthracis* made in Baltimore last summer from material obtained by inoculation and culture experiments, from stock which had been in the possession

FIG. 6.

of Dr. Burden-Sanderson for seven years, and was sent by him to Prof. Martin of Johns Hopkins University. (*Vide Philadelphia Medical Times*, June 18, 1881, p. 593.) In this figure rods and isolated spores may be seen, also a long filament containing numerous spores arranged at regular intervals.

It is difficult to represent these micro-organisms by means of wood-cuts exactly as they appear in the photo-micrographs; but these cuts will at least be free from misrepresentation, due to the personal equation of the original observer, as the cuts are all made by the wood engraver, under the direction of the editor of this journal, from photo-micrographs made by myself, with the exception of Fig. 1, which, as already stated, I have drawn from the microscope, with an indifferent photo-micrograph to guide me as to dimensions. In this figure I have also endeavored to show the *pseudo-bacilli*, which I have thought it necessary to point out for the benefit of inexperienced persons who may be inclined to resort to the microscope for the diagnosis of their tubercular cases. The point of contact between the two pus cells in the lower part of the figure and the right hand margin of a nucleus in the cell containing three nuclei, are intended to exhibit this appearance.

Perhaps it will be thought by some, that a proper recognition of the merits of Koch as an accurate observer, of the fact that the Emperor of Germany has already rewarded him for his discovery, and my own statement, that I find the bacilli described by him in the sputa of tuberculous patients, are sufficient reasons for removing the interrogation point from the title of this paper. But the atmosphere of this remote locality is more favorable for interrogation points than is that—Berlin—in which the correspondent of THE MEDICAL NEWS, J. T. W., writes his interesting letters; I must therefore continue to fly my colors at the risk of being considered obstinately conservative and exacting. Dr. Koch, himself, admits that the demonstration is only made complete by his inoculation and culture experiments, and the results obtained by these, I am not yet able to confirm. This serial must, therefore, be still further extended.

SOME OF THE NERVOUS AFFECTIONS WHICH ARE LIABLE TO FOLLOW NEGLECTED CONGENITAL PHIMOSIS IN CHILDREN.

BY NORMAN H. CHAPMAN, M.D., B.S.,
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THE condition of congenital phimosis is a simple one. The foreskin is long and abundant, while the mucous membrane lining it is short and undeveloped. The defect or narrowing of the preputial orifice rests almost entirely in the contracted mucous membrane, rather than in the lax and overlying integument.

A penis congenitally deformed by phimosis is usually somewhat dwarfed or atrophied. The trouble is always a source of inconvenience, interfering with cleanliness as well as comfort, and it not unfrequently becomes the source of marked disease. Thus in children irritating secretions from the sebaceous follicles—the "smegma preputii"—are retained under the elongated and tight foreskin, and produce a considerable amount of local irritation, which is usually sufficient to keep the organ almost constantly in a state of undue excitement. Again, when the preputial orifice is smaller than the urethral meatus, and there is difficulty in micturition from the backing up or retention of urine about the glans, the irritability of the bladder which is invariably associated with it, not infrequently produces symptoms resembling those of calculus. Many a case of suspected urinary calculus in a young child, has after physical examination turned out to be aggravated congenital phimosis. Then, too, calcareous concretions sometimes form between the prepuce and glans. In my first operation for phimosis, upon a colored child aged five years, I found four well-formed calculi, of millet-seed size, embedded in a mass of gritty smegma. In India these concretions are very common, frequently forming in enormous quantities. Whishaw tells us that from a single native of India he has removed no fewer than 426 of these small calculi.

It is my principal desire at this time, however, to call attention to some of the varied nervous troubles which are liable to be brought about by neglected congenital phimosis, and I shall endeavor to illustrate the types of the maladies produced by short histories of appropriate cases taken from hospital records and my own private note-book.

There is scarcely a case of moderately severe congenital phimosis which does not in some way show its characteristic undermining influence upon the constitution and general health of the sufferer. In a fair proportion of the children thus affected, perhaps the only evidence of failing nutrition noticeable will be in the changes in disposition and in the setting up of an indistinct train of nervous phenomena. In children previously brisk and cheerful, there is a striking change of temper, they are now peevish, fretful, and discontented. The mental energies fail; the child is inattentive and forgetful at school; and there are disturbances of

appetite and of sleep. But in a certain proportion of these cases the evidence exhibited will be of a more serious character. The nervous system will be undermined to such an extent as to result either in chorea, or in some of the varied forms of reflex or peripheral palsy; and it is this class which I wish more especially to illustrate by a series of cases.

The tendency towards the development of choreic attacks is fairly shown in the following case:

P. F., a delicate lad, aged 7 years, applied to the out wards of the Philadelphia Orthopædic Hospital for suspected spinal trouble. Upon examination, although the spine was found to be perfectly normal, the child suffered much from irritability of the bladder; during the day he would pass small quantities of water frequently, and was continually wetting the bed at night and crying out with pain. The mother states that he is a cross, irritable child, cries a great deal, and complains of suffering pain on passing water, that he has been at school, but was sent home on account of inattention and forgetfulness, and that he was frequently punished by the schoolmaster for bad temper. Together with these symptoms of irritability of the bladder, the child exhibited certain awkward and incoördinate muscular movements of the body and upper extremities. These motor disturbances were not under the control of the will, but markedly exhibited their disobedience when a volitional act was attempted. When the child would attempt to pick up a small object, for instance, or do any similar act in obedience to the mandates of the will, it was done with that lack of coördination peculiar to the more common form of chorea. These incoördinate movements were not the monotonous jerking muscular contractions of the epileptic or hysterical case, but were marked by a good degree of variety, and so combined as to give to the observer the aspect of design in their execution. The muscles of the face also executed at regular intervals a peculiar grimace, and the shoulders were from time to time alternately raised and sunken. There was a faint anæmic heart murmur, but no organic lesion. The condition of the penis was that of phimosis. The prepuce was long, and the mucous lining membrane largely adherent to the glans. The margins of the prepuce were swollen and inflamed. The lips of the meatus, which could with difficulty be seen, appeared red and pouting.

Circumcision was performed. The child placed upon a tonic and nutritious dietetic regimen, with the occasional employment of the cold douche to the spine, and in two weeks after the parts had entirely healed, the irregular choreal manifestations had disappeared, but the lad still had the reputation of a bad temper.

This is not an isolated case. I have seen several whose histories were essentially the same, and its citation only adds another exciting cause to the group of choreal neuroses.

Paralysis of a purely reflex nature not unfrequently follows aggravated congenital phimosis. This fact was pointed out some years ago by Sayre, and has since that time been repeatedly observed. The types of reflex palsy, most common from this exciting cause, are of the nature of paresis rather than of total palsy, although there have been cases where the loss of power was complete. The parts most usually affected are the lower extremities, either singly or together; the arms, either the right or the left separately; and at times special muscles or groups of muscles. The following case will illustrate this form of reflex palsy as it occurs in the lower extremities:

A. L., æt. 5 years, a colored child of strumous parentage, was brought to me suffering from partial loss of power in the lower extremities. The mother's history of the onset of this trouble was very imperfect, but from her I learned that about four months previously the child had in rapid succession several spasms or convulsions, in which consciousness was apparently lost, and that after these attacks there was noticed some loss of power in the lower extremities. At first, not much attention was paid to this condition, but the child grew gradually worse, and as I first saw him the loss of power was well marked. The child could not stand alone; he had little or no use of the leg muscles, and only a limited amount of control over those of the thigh. There was an absence of reflex and automatic muscular movements upon irritation of the peripheral nerves of the part. Sensation, as tested with the æsthesiometer, remained nearly normal. There had never been manifestations of any derangement in the cerebral function. The electro-muscular contractility, as tested by the induced current, was very feeble, but there appeared to be little or no atrophy of the parts. The child appeared fairly well nourished, but as the mother expressed it, was "excessively nervous," "never still," and occasionally wet the bed at night. The child had phimosis, and the tissues about the preputial orifice were considerably inflamed, and, what is not very common, dotted with numerous small ulcers.

Feeling confident that the loss of power in this child's case was mainly of a reflex character, and dependent upon genital irritation, I began his treatment by circumcision, and followed it up by employing local massage, galvanism, and afterwards faradization, with mild tonics, and a short course of the iodides. The case made a rapid and almost complete recovery. In a month's time the child was able to walk about without much difficulty. After this I did not see the case.

Reflex palsies dependent upon neglected congenital phimosis, are not always of so severe and extended a nature as seen in the case just mentioned. The loss of power may be confined to a single member, or to a single muscle or set of muscles.

About a year ago, I saw in consultation a child, from Maryland, who was suffering from local palsy of the right upper extremity. The loss of power in the muscles of the forearm and hand was almost complete, but was not at all marked in the muscles of the arm and shoulder. Reflex and automatic movements were not easily excited, sensation was impaired in the hand affected, and there were evidences of beginning vaso-motor and trophic disturbances. The child had aggravated congenital

phimosis. In consultation I expressed the belief that the palsy was of a reflex character, and dependent upon the peripheral irritation set up by the neglected congenital deformity. This view was not entertained by the physician in attendance, but nevertheless, circumcision was performed, and in due course of time the child regained the use of the palsied member.

Single muscles are occasionally affected. Witness the following case of convergent strabismus from paralysis:

Willie W., æt. 6 years, a fairly well-nourished child, of healthy parents, applied to the surgical wards of the Orthopædic Hospital in reference to a bodily deformity. Beside the orthopædic trouble, it was noticed that the child had convergent strabismus. The mother stated that the eye trouble was of slow growth; that at first it was only noticed when the child was attempting to look at some particular object—that is, the condition at that time was what is known as periodical squint—but that of late the crossing had become constant and the eye somewhat fixed in its unnatural position.

The child suffered from the usual symptoms of irritability of the bladder; had marked phimosis, the penis was unduly large, appeared to be in a state of chronic excitement, and during a slight examination became erect. Circumcision was performed, the case carefully watched, and shortly after the parts had entirely healed we saw no more of his strabismus.

In cases of paralytic or spasmodic strabismus there is a condition of deficient innervation of one or more of the muscles of the ball of the eye. The condition is more or less the result of a vitiated nerve and blood supply, and has the effect of gradually lessening the power of the affected muscle until the eye is rendered more or less fixed in position. Cases of strabismus which are of this nature are easily distinguishable from those of concomitant squint, by observing the movements of the affected eye while vision is temporarily occluded from its unaffected fellow. For instance, if in a case similar to the one just mentioned, the sound eye be covered, the one affected cannot be readily directed towards any desired object, its mobility is impaired; whereas in the ordinary cases of concomitant squint the muscular innervation is normal, the affection of the muscle being practically only one of shortening, as is demonstrated by the perfect mobility of the ball of the affected eye when its fellow of the opposite side is closed. The impaired mobility *or fixation* of the eye-ball does not of itself indicate that the existing strabismus in this case was from palsy of peripheral origin; but when we consider in connection with this fact, the gradual onset of the trouble—how it was at first only periodic squint and afterwards became constant—the unimpaired mental faculties and the non-existence of other morbid phenomena indicative of brain or cord trouble, and its ready disappearance after the removal of the source of peripheral irritation, we can scarcely consider it anything else but one of those rare forms of purely reflex palsy in which only a single muscle is affected.

As to the manner in which the irritation of the peripheral nerves of the genitalia consequent upon congenital phimosis, produces such reflex palsies, it is not my present purpose to speak. I will only say that, in the opinion of Brown-Séquard,[1] "they result from chronic irritation of the genito-urinary organs, with secondary contraction of the vessels, of the cord, and atrophy of the corresponding parts." Romberg and Stanley consider them to be "motor-spinal palsies due to the suspension of the sensory influence of the fibres of the sympathetic system." According to Gull, the palsies in question result from the propagation of the inflammation in the urinary passages to the spinal cord. And Levisson has pretty clearly demonstrated that these palsies were "due to an arrest of the functions of the motor nerve-centres in consequence of excessive irritation of the sensory fibres at the periphery."

Before dismissing this brief mention of some of the maladies which occasionally follow neglected congenital phimosis, I should like to call attention to two cases which are not of a nervous character, but which will not be without interest. They are as follows:

C. and W., two little Italian boys, brothers, aged respectively 3 and 4 years. They were brought to the hospital for right-sided scrotal hernia, developed in each since their birth. Upon examining the herniæ, as to shape, size, and color, their appearances were remarkably similar. If there was any difference, it was in size; that of the elder boy being, perhaps, a trifle the larger hernia. They were each fully up to a pullet's egg in size. The penis of the oldest child was abnormally large, and appeared as if it were habitually in a state of semi-erection. The father remarked that he had noticed this child to rub and pull at the organ as if in pain, the titillation being no doubt a large factor in the almost constant excitement of the organ. There was marked phimosis. The preputial orifice was very small, only permitting a knitting-needle-like stream to flow during micturition, so that the urine collected between the prepuce and glans in a pouch-like manner. The margins of the contracted prepuce were red and angry, and there were noticed lumps of hardened smegma back of the corona. The condition of the younger child was much the same as that of the one just mentioned, except that the penis was very small, atrophied; there were no collections of smegma preputii, and the prepuce was largely adherent to the glans. These children were both peevish, fretful, cried a great deal, and strained heavily with every attempt to relieve an irritable bladder.

Circumcision was peformed in each of these cases; the herniæ reduced and held in place by a properly fitting truss. The mother remarked several weeks after the operations were performed that the change wrought in the disposition of the boys "was something truly remarkable."

Dr. Louis A. Sayre[2] has recently recorded two cases very similar to the above occurring in his private practice, in a pair of male twins. In Dr.

[1] Putzel's Translation of Rosenthal on "Nervous Diseases," vol. ii. p. 152 *et seq.*

[2] Medical News and Abstract, June, 1880, p, 326.

Sayre's cases the herniæ were inguinal, and were believed to be caused by excessive crying, and by straining efforts during micturition. There was severe phimosis in each of the twins, and circumcision was performed, but we are not told as to the result.

From the above citation of cases it will be seen that the long and contracted foreskin with which so many young children are born is not always a harmless deformity. Indeed it may be truly said to be the cause of a great variety of secondary complications, which are oftentimes more serious than the original trouble. We have no knowledge of the exact relation which the cases of congenital phimosis bear to the number of male births. I think if we had, the proportion would be much larger than is ordinarily anticipated. I conceive that it is always good surgery to correct this deformity, wherever it is at all aggravated, as a precautionary measure, even though no symptoms have as yet presented themselves to indicate the early development of such troubles as I have here endeavored to illustrate. Moses was a good sanitarian, and if circumcision was more generally practised at the present day, I believe that we would hear far less of the pollutions and indiscretions of youth; and that our daily papers would not be so profusely flooded with all kinds of sure cures for loss of manhood.

A CASE OF EXTERNAL PERINEAL URETHROTOMY,

UPON A CONDUCTOR, FOR A RESILIENT STRICTURE OF THE DEEP URETHRA, AND THE MEDIAN LITHOTOMY OPERATION FOR THE REMOVAL OF A FOREIGN BODY FROM THE BLADDER AT ONE SITTING.

BY HENRY I. RAYMOND, M.D.,
ASSISTANT SURGEON U. S. ARMY, LATE HOUSE SURGEON TO BELLEVUE HOSPITAL.

WHILE halting as between an internal urethrotomy and an external perineo-urethral section for a deep resilient stricture of the urethra, the choice or manner of operation was decided in my mind by the lodgement in the bladder of four inches of a hard rubber catheter by meddlesome interference and the failure to extract the same with the urethral forceps, and inability to obtain a lithotrite for a final trial by extraction. The indications seemed to be to make a perineal section, incise the urethra at the seat of stricture, and extract the foreign body through the perineal wound.

I. D., Irish, in fair physical condition, but obdurate and obstinate, had had six gonorrhœas, the first attack being fourteen years ago. Seven years subsequently an embryonic stricture appeared, and in course of time encroached upon the calibre of the urethral canal so as to necessitate instrumental dilatation.

On seeing the case for the first time three months ago, I found a stricture at five and a half inches, which grasped tightly a No. 6 conical steel sound, but would dilate readily, by virtue of its resiliency, up to a No 10. After practising gradual dilatation not oftener than twice a week for two months, a No. 15 steel sound passed snugly. Since then the same calibre has been reached at each sitting, but it has been necessary to begin the dilatation with much smaller numbers. Ten days after the passage of a No. 15 steel sound, the patient came to me at six o'clock in the evening with a retention of urine of a few hours' duration, which was relieved by a large-sized catheter, introduced after the passage of Nos. 7, 8, and 9 steel sounds.

It not being advisable to treat the patient, a military convict, out of quarters, I tied in his urethra a well-oiled, but too brittle, vulcanized rubber catheter, and instructed him in three hours to void his urine, and then slowly to withdraw the catheter for the night.

Immediately after I left him, he tells me, he untied the catheter, shoved it backwards and drew it forwards repeatedly in his urethra, to see how tightly it might be grasped, and finally withdrew the major portion of the instrument, leaving four inches of hard rubber tubing in his bladder. Patient's obstinacy prevented the removal of the foreign body until the lapse of thirty-six hours, when symptoms of vesical irritation—pain and frequent micturition—began to manifest themselves. Thereupon patient was etherized, and being placed in the lithotomy position, the bladder was sounded, and the fragment of a catheter detected.

Assistant Surgeon E. C. Carter, U. S. A., then passed a lithotomy staff, and, holding the staff at a perpendicular to the hypogastrium, exactly in the middle line, pressed lightly against the flesh of the pubic cushion, the scrotum being elevated.

Having secured an exact symmetrical position of patient's hips and buttocks, the operator, with the left forefinger in the patient's rectum, steadied the staff and guided a long narrow-bladed bistoury, entered at a point half an inch above the anus, into the groove of the staff at the apex of the prostate. The knife, with its cutting edge uppermost, incised the urethra a few lines in length, and was then withdrawn upwards, making an incision in the perineum of an inch and a quarter. The procedure thus far formed the initial step in common to both subsequent operations, namely, the urethrotomy with relief of the stricture, and the "lithotomy" with extraction of the imprisoned catheter.

In the next step the longitudinal cut in the urethra was extended for almost two inches, liberating the stricture and affording ingress into the bladder. The operator's left index finger was then removed from the rectum, and, being well coated with vaseline, was entered at the perineal wound, and by a gentle twisting and boring movement effected the dilatation of the prostate and an entrance into the bladder, the finger being guided surely into that viscus by following along between the upper urethral wall and the *concavity* of the staff.

When this simple rule has not been conformed to, it has happened that the dilating finger has made for itself in the abundant cellular tissue a cul-de-sac, in which, of course, the presence of a vesical calculus failed to be demonstrated. Dr. Carter now withdrew the lithotomy staff from the urethra. The finger once in the bladder, its bas fond was

explored to the left and then to the right, and the foreign body, felt in the latter situation, was extracted by the urethral forceps aided by the left forefinger of the operator.

Patient was then put to bed on his back, with his lower limbs approximated, and the scrotum was elevated by a suspensory bandage as a preventive measure against urinary infiltration.

The loss of blood amounted to not more than a tablespoonful, although there existed external hemorrhoids from constant straining at micturition. The shock to the patient was very slight, but to prevent urethral chill, quinia sulph. grs. x and morphia sulph. gr. ¼ were given as patient came from under the anæsthetic. The perineal wound was left free and open, inasmuch as Menzel, and, later, Keyes, have shown, by traumatic infiltration in dogs, and by hypodermic injection of healthy urine in man, that normal urine is innocuous to cellular tissue and membranes denuded of their epithelium. No catheter was retained or passed, since its presence has often been the cause of urethral chill, ulceration and incrustation, and prevention of union by the first intention. The urethral wound was cleansed twice daily with a 2½ per cent. carbolic acid solution, and balsam of Peru and marine lint applied.

The temperature has not risen at any time above 99.8° Fahr. Subsequent to operation patient received tinct. ferri chlor. gtts. xv, well diluted, and quinia sulph. grs. iij, t. i. d., and his urine was rendered bland and unirritating by potash and diluent drinks.

I passed a full-sized, well-polished steel sound on the second day and on each third day thereafter.

One week from date of operation the urine began to pass in some measure by the natural channel out through the meatus urinarius, and the ratio to the whole quantity gained an increment at each subsequent act of urination up to within the third week, when the urethral rent had closed and the whole stream of urine was ejected from the distal orifice. At no time did patient lose control of his vesical sphincter. No untoward symptom presented itself, and patient was permitted to leave his bed on the eighth day. The wound healed without discharging one drop of pus.

Catheterization can now be made with a full-sized instrument, and the stricture may be said to be "cured," with the proviso that a large, highly polished steel sound be passed every week or fortnight as long as for him the law shall hold good that irritation of living organic fibrous tissue will cause retraction.

HOSPITAL NOTES.

UNIVERSITY HOSPITAL.

(Service of PROFS. D. HAYES AGNEW AND JOHN ASHHURST, JR.)

FOUR CASES OF ABDOMINAL INJURY.

(Reported by THOMAS D. DUNN, M.D., RESIDENT SURGEON.)

CASE I.—J. R., æt. 15, admitted under care of Dr. Agnew, March 20, 1882. While lifting a box into a wagon, the box slipped, striking his abdomen. The patient fainted, and lay unconscious for several minutes, and when brought to the hospital his condition was alarming—a rupture of some abdominal viscus being suspected. The symptoms were those of profound shock. He lay listless and helpless. There was great pallor, and the skin was covered with a cold sweat; the temperature in the axilla was only 97° F.; the heart's action was slow and slightly intermittent; pulse small and compressible. Abdominal tenderness was not marked and no evidence of external injury could be detected. There was no vomiting or retention of urine. The treatment consisted in the application of external heat, and in the administration of carbonate of ammonium and a moderate amount of stimulus. For the epigastric tenderness a large poultice was applied to the abdomen. In a few hours he reacted, but the belly continued tender to the touch, and there was considerable prostration for forty-eight hours. He was discharged three days afterwards, cured.

CASE II.—C. R., æt. 17, brakeman W. C. & P. R. R., admitted into house under care of Dr. Ashhurst. In walking from one box car to another he fell between them –striking with his abdomen on the circular wheel of an ordinary brake. His condition on admission was similar to that of the previous patient—one of severe shock. The abdominal tenderness was more marked, and there was slight contusion of the walls of the abdomen. The temperature was subnormal and catheterization was required to empty the bladder. The shock was treated in the same way as in the preceding case, and after reaction was thoroughly established calomel and opium were prescribed. There was some vomiting, but no tympanites or constipation. He left the hospital well in one week after admission.

CASE III.—P. N., æt. 43, seaman, admitted December 5, 1881, under care of Dr. Ashhurst. The injury was sustained by falling down the hatchway of a vessel and striking with abdomen on a beam. The patient was picked up unconscious, and when brought to the hospital complained of pain in the abdomen, which was tender to the touch and considerably tumefied. There was great anxiety of countenance; the pulse slow and feeble; skin cold and clammy; temperature subnormal; respiration shallow and gasping. Diffusible stimulants, external heat, hot poultices to abdomen, and the free administration of opium constituted the treatment. The urine had to be drawn off, but it contained no blood. On the 6th his condition became more alarming. The belly was enormously distended with gas and very painful to touch. The dyspnœa was more marked, and there was frequent vomiting. Temperature was 100⅘°; pulse 60. Dr. Ashhurst directed an increase of opium, mercurial inunctions over abdomen twice daily, to be followed by hot poultices, and in case the dyspnœa threatened the life of the patient, a resort to aspiration. On the 7th the pulse dropped to 48, but the temperature remained about 100°. The violent vomiting rendered rectal alimentation necessary. On the 7th day after admission his gums became sore and the mercury was stopped, and the day following there was a copious movement of the bowels, the first since admission. It was followed by decrease in dyspnœa, vomiting, and tympanites. The patient's temperature ranged from 99° to 101°, and pulse from 48 to 64 for ten days. He left the house convalescing twenty-eight days after admission.

CASE IV.—B. S., æt. 24, laborer, admitted March 13, 1882, under Dr. Agnew's care. The injury was received by the kick of a horse, to the left of the median line and below the floating ribs. There was considerable shock on admission, from which the patient slowly reacted. He passed a large quantity of blood from the bladder soon after receiving the blow. The same

evening the belly began to swell with abdominal pains and tenderness, and the vomiting of everything taken into the stomach. On the 14th, the blood had almost disappeared from the urine, but catheterization was still required; the distention of abdomen increased with increase of tenderness and constant vomiting of bile; temperature 100°, pulse 72 and very feeble. Mercurial inunctions, with hot poultices and the free administration of opium, as in the previous case, constituted the treatment. In addition to this, nearly every remedy known to allay the irritability of the stomach was unsuccessfully tried. Food was given by rectum. Catheters were frequently passed into the rectum and turpentine injections employed, hoping to effect an escape of gas, but with very imperfect results. The dyspnœa and vomiting on the 17th became more urgent, and early on the morning of the 18th an attempt was made to remove the gas by the insertion of a large stomach tube far into the rectum, and failing in this, a small trocar and canula was inserted in the median line about two and a half inches below the umbilicus. A large quantity of gas escaped and immediate relief of both vomiting and dyspnœa followed. The patient expressed himself relieved, and went to sleep and not waking until daylight, when there was a large movement of the bowels. He rapidly improved, and in a few days was convalescent.

Remarks by the Reporter.—The first two cases seem to have been simply concussion of the solar plexus, without rupture of peritoneum, and recovery without peritoneal inflammation. They are examples of a class of injuries the symptoms of which, though they are characterized by profound shock, disappear in a few hours to be unattended by subsequent mischief. Mr. Pollock (on Injuries of Abdomen, *Holmes' System of Surgery*, vol. ii. p. 619–23) relates similar cases from *St. George's Hospital Reports*. The condition of Cases III. and IV. rapidly became alarming. Although the external manifestations of injury were but slight in Case IV., and none in Case III., there must have been a rupture of the peritoneum (probably parietal portion) and localized peritonitis.

The practical teachings to be obtained from the above, are that trifling blows to the yielding abdominal walls must be considered with care and treated with caution. We should not, however, despair when the gravity of the symptoms point to the most formidable injury. Contusions of the abdominal walls are more severe than of most other parts of the body. This is due to the coverings of the abdomen having less power to resist blows, and enveloping a large serous surface in intimate connection with the solar plexus of nerves.

The theory has long been held that sudden death may follow a blow on the abdomen without any perceptible organic lesion being detected on dissection, and Woodman and Tidy (*Forensic Medicine*, p. 1029) refer to cases in which persons have been convicted of manslaughter, though no morbid appearances were detected on *post mortem* in the bodies of those whom they were supposed to have killed. They claim that in such cases of sudden death, the solar plexus or semilunar ganglion is injured. Guy (*Forensic Medicine*, p. 376) says "contusions of the abdomen may produce sudden death by shock, rupture of epigastric artery, or peritoneal inflammation." Similar views are held by Beck (*Med. Jurisp.*, p. 282); Dean (*Med. Jurisp.*, p. 231); Wharton and Stillé (*Med. Jurisp.*, p. 861); Taylor (*Med. Jurisp.*, Amer. ed. by Reese, p. 338). Travis, Alison, Watson, Cooper, and others, also speak of blows on the pit of the stomach producing sudden death without visceral lesion. Pollock (*op. cit.*) has carefully investigated the cases brought forward to establish this popular theory, and shows that the facts related in them do not justify their view. Woodman and Tidy refer to the following cases: Regina *v.* Laws, Norwich Lent Assizes, 1854; Rex *v.* Jones, Warwick Summer Assizes, 1831. Mr. Wood (*Medical Gazette*, vol. xliv. p. 213) reports a case which Dr. Taylor considers an "unequivocal instance" of sudden death from a blow on the epigastrium. Pollock quotes this case in detail, but rejects it; the man had been engaged in a pugilistic encounter for some time, had received repeated blows and bruises previous to the one in the pit of the stomach, and was intoxicated. These formed three elements of physical exhaustion rather than sudden death from a blow in pit of stomach. The post-mortem examination revealed contusions from the effect of the repeated blows, and the meninges and brain were congested as the result of intoxication. Mr Poland (Prize Essay on Injuries of Abdomen, quoted by Pollock) relates a case of a woman in advanced pregnancy. She had received repeated blows inflicted by her husband with a cod-fish for several minutes; no lesion was found. Her husband was tried and convicted of murder in Norfolk Circuit Court, at Cambridge, in 1835. Another case is quoted by Poland, of a man killed in a pugilistic encounter, and his antagonist convicted in Central Criminal Court, August, 1841. In Sir Astley Cooper's case, the exhaustion and heart disease were sufficient to account for the sudden death, and he only received the case second-hand.

Those cases, as Pollock has suggested, were reported before pathological changes were observed as carefully as at present, and pre-existing disease may have been present in some, and many of them have been in physical combats where exhaustion and excitement furnish an important element in the cause of death. I have consulted many of the American and English journals of the last twelve years, and have been unable to find a case where sudden death has resulted from a blow to the abdomen without any visceral lesion being detected by careful dissection. Many of the medico-legal authorities referred to above refer to the same notes that Pollock rejects. They state that the cases are numerous, but it seems rather remarkable that they should select those to establish their theory, which have been shown to be of questionable nature, and that no case should have been mentioned since 1854. The recovery of the four cases recorded in this paper, in two of which peritonitis had set in, seems to support the view held by Pollock. At least further carefully conducted autopsies are necessary before the old theory—that sudden death may result from a blow to the abdomen without any perceptible organic lesion—can be considered demonstrated beyond reasonable doubt.

VIENNA GENERAL HOSPITAL.

(Service of PROF. BILLROTH.)

RESECTION OF THE PYLORUS FOR STENOSIS.

(Specially reported for THE MEDICAL NEWS.)

PROF. BILLROTH, upon the 3d of August, performed the second recorded pyloric resection for stenosis of non-malignant origin. The first operation, it will be remembered, was performed by Rydygier for stenosis following gastric ulcer.

Three weeks before the operation Prof. Billroth's patient swallowed a quantity of caustic soda, which resulted in the production of stenosis of the pylorus. Food was regurgitated whenever ingested, and the evidence was complete that it could not pass the pylorus.

An abdominal incision from ten to eleven cm. in length was made, and the constricted pylorus was removed, the exsected portion measuring about ten cm. in length, and possessing an irregular quadrilateral form. The lower portion of the oblique incision through the stomach was secured in the so-called "oc-

clusion suture" by six deep and ten superficial silk sutures. The length of the "occlusion suture" was about ten cm. The upper portion of the oblique incision was thus converted into a circular wound whose lumen corresponded exactly with that of the adjoining portion of the duodenum. The gastric and duodenal walls were then neatly united and the external wound closed.

The hemorrhage, during the entire operation, was trifling and easily checked. The patient evinced very little shock, although the operation lasted one and one-quarter hour.

The same sponges which were used for the removal of the contents of the stomach were employed in performing the "toilette" of the peritoneum.

The patient received upon the day of the operation, milk; the next day, soft food; and before the sixth day, meat was ingested.

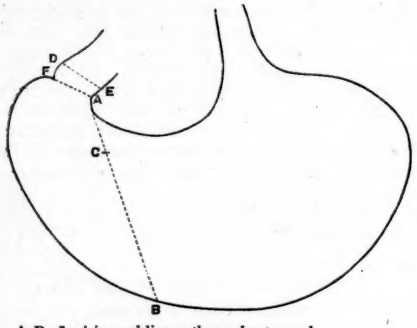
No untoward symptom occurred until the sixth day after the operation, when evidence of peritonitis was given, and the patient died.

The autopsy, made upon the following morning, showed that six stitches in the "occlusion suture" had given way, allowing the contents of the stomach to escape into the abdominal cavity. Small abscesses had formed around each of the stitches that had given way. The usual lesions of acute peritonitis were also noted.

It is supposed that the small abscesses about the stitches were of septic origin, due to the employment of the same sponges for removing the stomachic contents and cleansing the peritoneal surface of the "occlusion suture."

The result in this case is regarded with profound regret by Prof. Billroth, and his first assistant Dr. Wölfler, for if the patient had recovered, it would have established the feasibility of the operation.

The appended diagram will serve to convey an idea of the steps of the operation.



A B. Incision, oblique, through stomach.
D E. Incision through duodenum.
A F. Seat of stricture.
B C. 10 cm. length of "occlusion suture."
A C. Free portion of oblique incision through stomach in circumference.
D E. The circumference of duodenum.

MEDICAL PROGRESS.

EXTIRPATION OF THE CANCEROUS UTERUS.—DR. A. N. SOLOVIOFF, of Moscow, records (*Mediz. Obozr.*, Jan. 1882) his third case of extirpation of the uterus for carcinoma of the cervix, in a patient aged 53. The operation was performed through the vagina. The uterus having been brought down by means of Museux's forceps, the cervix was separated from the surrounding parts, and then Douglas's pouch was laid open. The anterior peritoneal *cul-de-sac* was not opened; the operator cut off, by means of scissors, the whole of the mucous membrane and the greater part of the muscular wall, leaving a thin stratum of the latter, with the serous covering *in situ*. The broad ligaments were then divided, some vessels were tied, and a drainage-apparatus (four Nélaton's flexible catheters sewed together) was introduced into the opening in Douglas's pouch. On the seventh day after the operation, the drainage-tube was removed. On the fifteenth day, the patient was up. Her recovery was rather slow. This is the second time the author has operated through the vagina, which method he prefers to the high (or laparotomic) operation, finding the low extirpation technically easier and less liable to such complications as shock, or accidental wounding of the bladder or ureters. The high operation he regards as indicated only when the uterus is too large to be removed through the posterior or anterior peritoneal *cul-de-sac*, or when there exist adhesions of the womb and degeneration of lymphatic glands (*Mediz. Obozr.*, Oct. 1881, p. 516). The author gives the reasons which led him to perform total extirpation of the womb, though the cervix alone was affected. The researches of Drs. Ruge and Veit have shown that in cases of cervical cancer the epithelium of the body of the uterus also degenerates very early. Microscopic examination of the mucous membrane of the body of the organ in the author's case fully confirmed the statement of Ruge and Veit. Dr. Solovioff belongs to the most ardent advocates of Freund's operation, and even holds that total extirpation of the uterus is the only rational procedure in the treatment of uterine cancer.—*London Medical Record*, July 15, 1882.

EARLY OPERATIVE TREATMENT OF STRUMOUS JOINT-DISEASE.—MR. J. GREIG SMITH summed up his remarks in opening the discussion on this subject at the recent meeting of the Section of Surgery of the British Medical Association, as follows:

1. Strumous disease starts either as a synovitis or as a medullitis, and requires different forms of treatment as it is one or the other.

2. In synovio-arthritis, while recommending the use of such measures as elastic compression over cotton-wool, counter-irritants, and functional rest, he believes that a systematic use of passive motion is beneficial.

3. In medullo-arthritis, absolute rest in plaster o Paris he believes to be, on the whole, the best form of treatment—better than extension, and better than counter-irritants and other means.

4. If there be no signs of improvement after a few weeks' use of such treatment, he believes that we ought to step in and operate. In synovia-arthritis, the most generally useful plan would be, to make large incisions into the joint, peeling the granulations off the articular cartilage, and removing as much of the pulpy material as possible, and freely draining. In medullo-arthritis, we ought to remove the inflamed marrow from the inside of the bone along with the trabeculæ, and endeavor to fill the cavity with blood-clot. In both cases, he would operate antiseptically.

5. If these means fail, then excise; but excise early. —*British Medical Journal*, August 26, 1882.

YVON'S TEST FOR THE PURITY OF CHLOROFORM.—The test recently proposed by M. Yvon for the purity of chloroform (see THE MEDICAL NEWS, March 4, 1882, p. 244), has been subjected to a critical examination by several English chemists, and is condemned for the following reasons:

1. The test is too rigorous, in that it does not permit of the presence of the small proportion of alcohol which experience has proved necessary for the preservation of chloroform.

2. That any sample of chloroform, however impure,

can be made to answer to the test by merely agitating it with sulphuric acid.

3. That all chloroform manufactured, previous to the addition of alcohol, will stand the test, although it may not pass the tests ordinarily prescribed.

4. That the chloroform purified by M. Yvon's process, by agitation with an alkaline solution of potassium permanganate, is certainly not pure, even judged by the crude test of the odor alone.—*Detroit Lancet*, September, 1882.

RESECTION OF THE HIP-JOINT.—MR. GEORGE COWELL reported at the meeting of the Section of Surgery of the British Medical Association his experience in sixty-five cases of excision of the hip, in which his percentage of deaths amounted to ten per cent. His conclusions are:

1. Resection should be restricted to cases where there is distinct grating in the joint, accompanied by either pain or profuse suppuration, or failure of health.

2. It should be performed without loss of time, as soon as these conditions are recognized.

3. It is inadmissible in patients over eighteen years of age. All three of my older patients died with more or less prolonged suppuration, and without the slightest attempt at repair. I have never seen an adult patient recover from excision of the hip.

4. The younger the patient (my youngest patient was three and a half) the more satisfactory the result, and the more rapid the repair.

He now performs the operation antiseptically, and always removes the great trochanter with the head of the bone. By not postponing the operation, the acetabular mischief is usually slight. Both ends of the wound are closed with two silver sutures, a tube being inserted so as to keep the centre of the wound, opposite the acetabulum, open. He prefers Bryant's splint, and fixes the limb operated upon one inch shorter than the other. This extension is a matter of great importance, as he is convinced that the muscular contraction forcing the shaft of the femur against some part of the acetabulum is a frequent source of subsequent failure, and of undeserved discredit of the operation. In the last few cases, when possible, he has placed the children for the first few weeks in the prone position (face downwards), so as to avoid soaking the bandages with urine. He has tried this plan for too short a time to express any positive opinion with regard to it; but it answers its purpose exceedingly well, and is marvellously tolerated by the little patients.—*British Medical Journal*, August 26, 1882.

PURULENT OPHTHALMIA CURED BY IODOFORM.—DR. DUJARDIN reports the case of a child, eight monts old, who has been suffering for five days from purulent ophthalmia. Both corneæ were grayish throughout, and on the point of ulceration. The eyelids were constantly closed, and presented a truly enormous erysipelatous swelling; pus escaped in abundance, unmixed with tears. The general condition was bad; face pale; complete loss of sleep and appetite.

At first, according to routine practice, a two per cent. solution of nitrate of silver, neutralized with salt-solution, was applied, and then washed freely with pure water. The result was not good; the everted eyelids presented whitish escars, produced by the cauterization; both corneæ showed well-defined opacities, probably caused by the injurious action of the nitrate of silver; the conjunctival suppuration remained quite as abundant as before, and the swelling of the lids underwent no change in spite of the use of iced water compresses. Under these circumstances it was almost despaired of a successful issue, but he resolved to try the insufflation of iodoform so strongly recommended, and dusted the powder all over the conjunctival surface of the lids. The following day an improvement was noticeable; the purulent discharge had decreased considerably, and the eyes began to water, which he regarded as a very favorable symptom. He continued the application of iodoform. During this time the little patient took broth and Malaga wine. The purulent secretion then entirely ceased, the tears ran freely, the corneæ returned to a better state, becoming more transparent; the superficial opacities, due to the use of the nitrate of silver, gradually disappeared. Eight days from the commencement of the treatment the child was out of danger. He sent him back to his parents at Roubaix, with only a small opacity remaining in each cornea, which will, doubtless, disappear in a short time.—*Ophthalmic Review*, September, 1882.

ANTIDIPHTHERITIC INHALATION.—Some years ago, DR. H. HAGAR recommended a mixture composed of

Carbolic acid,	10 parts.
Alcohol,	10 "
Water of ammonia,	12 "
Distilled water,	20 "

as an excellent inhalation in catarrhal affections. It was directed to be used thus: A small wide-mouthed bottle was to be filled one-third with the liquid; then a sufficient quantity of cotton was to be introduced to just soak up all the liquid. The bottle was to be well stopped. In coryza, incipient catarrh, or similar affections, the inhalation through the nostrils of some of the vapor of the compound was found to be of the greatest benefit.

The same author now recommends a still stronger compound, to be made from

Carbolic acid,	10 parts.
Oil of turpentine (or oil of eucalyptus),	5 "
Water of ammonia,	12 "
Alcohol,	20 "

A small quantity of this is to be dropped into a small wide-mouthed bottle half filled with cotton or asbestos, and the bott'e well stopped. After a few days, a little more may be added, until a strong odor is given off when the bottle is opened.

A physician to whom Dr. Hagar recommended the use of the compound thinks that it prevents the spread of diphtheria, since, in five families, in each of which one case of diphtheria had become developed, its further spread was arrested, apparently through the use of the antiseptic inhalation. In another family, a second child was taken with the disease; but the child could not be coaxed to inhale the vapor. The inhalations should be as full and deep as possible. In some cases of coryza, it has been used with most excellent effects.

Should the odor of oil of turpentine be too offensive to any person, oil of eucalyptus may be substituted for it.—*Cincinnati Lancet and Clinic*, Sept. 9, 1882.

AN UNUSUAL RELATION BETWEEN THE PLACENTA AND THE MEMBRANES.—In the September number of the *New York Medical Journal and Obstetrical Review*, DR. HENRY J. GARRIGUES, of New York, describes a very remarkable relation between the membranes and the placenta. The placenta measured twenty centimetres in diameter, the cord sixty-four centimetres in length, and both were of normal thickness. The cord was inserted centrally. The membranes which had contained the child did not adhere to the edge of the placenta, but started from the point of insertion of the cord on this organ. Measured in a flaccid condition, hanging down around the cord, this bag was forty-one centimetres long. It was easily separated into two layers. The inner layer was covered with the epithelium characteristic of the amnion, a single layer of flat polygonal cells, which were in a state of fatty degeneration, as proved by numerous oil globules found in their interior. The outer layer consisted only of con-

nective tissue, which, in some places, contained a few round or oval cells, and many fat drops. In other places some loose shreds were found on the outer surface, which showed a greater number of similar cells. At the placental end of the cord the sac was seen to form a kind of triangular mesentery, embracing the first eleven centimetres of the cord, and attached to the sac to a similar extent. The two layers forming this fold were not united, so that the finger could be pushed in between them up to the cord; but at the lower end (*i. e.*, nearer to the fœtus) they grew together, so that a pouch was formed between the "mesentery" and the cord, admitting half the length of the index. At the placental end of the cord there was found in the interior a small clear vesicle of the size of a pea (the umbilical vesicle). The placenta presented the common shining, smooth fœtal surface, and rough maternal surface. The edge looked ragged, as if something had been torn from it, and in one place even a small, square piece of membrane about two centimetres in either direction was found attached to it. This membrane had no epithelium, and was composed of an inner layer of connective tissue, and an outer layer containing many round and oval cells. From the fœtal surface two membranous layers could be dissected off. The most superficial was exceedingly thin, the deeper one comparatively thick, and bound by isolated fibres to the placental tissue. The fœtal surface had no epithelium. The chief point of interest was that the sac in which the fœtus was placed, and which contained the amniotic fluid, was not attached to the circumference of the placenta, but to its centre, all around the insertion of the cord.

Microscopical examination showed that this sac was composed of the amnion and the chorion, but had only scant remnants of decidua attached to it here and there. On the other hand, the portion of membranes found attached to the edge of the placenta was composed of decidua and chorion without amnion, and the fœtal surface of the placenta had no amniotic epithelium. Dr. Garrigues supposes, therefore, that the placenta all around was separated, after the birth of the child, from the decidua, which remained attached to the interior of the womb. Secondly, that the amnion and the chorion together formed a fold from the circumference to the centre of the placenta, which fold on one side was open, and formed the meso-cord described. Such a folding was, perhaps, brought about by accumulation of fluid between the chorion and the decidua after the formation of the placenta. At first he supposed that the amnion alone partook of the folding; but then we should find, he adds, on the sac surrounding the fœtus, the line where the chorion had been torn, and there was no trace of anything of the kind. He thinks, therefore, we must conclude that the chorion remained close to the amnion all the way, and was folded with it so as to cover the fœtal surface of the placenta twice, as well as the amnion. This supposition is corroborated by the fact that two layers could be dissected from the fœtal surface of the placenta. The outer one was very thin, and this he took to be the chorion; the inner was thick, and this he explains as being the two layers of amnion grown together by their epithelial surfaces.

INGUINAL HERNIA OF THE OVARY.—PROF. ROSATI (*Jour. de Med. et de Chirurg. Prat.*, July, 1882) reports a case of inguinal hernia of an ovary resembling a strangulation of the intestine, where a removal was followed by restoration to health. A Florentine woman, forty-eight years of age, presented herself to his surgical clinic (*Presse médicale belge et Sperimentale*) for relief from a tumor situated in the left inguinal region, and about the size of a large potato. This tumor, rather hard and somewhat nodular, offered slight fluctuation at the level of greatest prominence. There was also a painful spot aggravated by pressure, the pain radiating to the umbilicus and epigastrum. Reduction was easy, but the tumor reappeared immediately upon removal of the pressure.

According to a statement of the patient, her mother had been aware of the existence of the tumor from her birth. At first very small; it attained the size of a walnut.

The patient had menstruated regularly since fifteen years of age, and has been three times pregnant. The first and third pregnancies terminated normally, the second in an abortion at the third month. It is interesting to note that during the two normal pregnancies, and beginning with the seventh month, the tumor passed up into the abdomen and remained there until delivery, permitting the patient to lay aside the bandage she was accustomed to wear.

Finally, a few days previous to the consultation, and just at the onset of menstruation, the patient was seized with a chill, accompanied by severe headache and a bad cough; the entire abdomen became painful, and in a short time vomiting supervened.

Prof. Rosati diagnosticated the malady as one of irreducible, congenital, inguinal hernia of the omentum, and prescribed rest in the recumbent posture, low diet, morphia internally, and application of ice to the seat of pain. But after a few days the vomiting became more pronounced, the retention of feces was complete, and the surgeon had recourse to the operation for strangulated hernia. Arriving at a point of fluctuation which he supposed to be the hernial sac, he incised it with care and gave exit to a sticky fluid. The other prominences not communicating with this one were likewise incised.

The pedicle of the tumor, extending up to the abdominal opening of the inguinal canal, was enucleated, and the operator recognized that the tumor was riddled by little cysts. Certain by this time that he was dealing with the left ovary, he severed the pedicle between two ligatures of catgut, inserted a drainage tube and united the edges of the wound. The recovery was complete in a few days. Microscopic examination of the specimen confirmed the belief that it was ovarian.—*Cincinnati Lancet and Clinic*, August 26, 1882.

AN ACCIDENT OF LABOR.—The frequency with which the compression of the cranium, during the passage of the fœtal head through a small pelvis, causes serious injury to the cerebral substance is well known. It is not probable that the skilful use of forceps increases the amount of damage; it is possible, although difficult to prove, that thus the injury may sometimes be lessened, but whatever be the force of mechanism by which the fœtal head passes through a narrow aperture, compression and damage there must be, in proportion to the contraction of the orifice. The fact of the injury to the cerebral tissue which results is strikingly illustrated by the discovery of Ruge that brain tissue may be found in the circulating blood in these cases, a fact which may also explain some other symptoms occasionally observed soon after birth in cases of difficult and instrumental labor. Ruge recorded three such cases, and a fourth has recently been placed on record by Dr. Paolo Negri of Milan. In this case, however, the fœtal head was compressed in the uterus and not in the pelvis, the presentation being transverse. The woman was small of stature, only four feet six inches high, with old rickety deformities. Her first labor had to be terminated by embryotomy; in the second and third pregnancies labor was induced in the eighth month. In the fourth, she had gone to the full time and the arm presented. Several

attempts at turning were made without success, the membrane having ruptured; ultimately version was effected under chloroform, but the child had been dead some time. Its heart was carefully removed, the vessels having previously been tied. In the left auricle and left ventricle there was but little blood, but in the right auricle there was a quantity of liquid blood, mixed with numerous soft whitish fragments of tissue, similar in appearance to cerebral tissue. A drop of blood, mixed with a drop of a saline solution, showed under the microscope a considerable number of well-formed nerve cells, while minute capillaries were found in the whitish fragments. — *Lancet*, August 26, 1882.

REMOVAL OF THE SUPERIOR MAXILLARY NERVE FOR NEURALGIA.—At a recent meeting of the New York Society of German Physicians, DR. GERSTER showed a patient who had suffered from facial neuralgia for many years, probably induced by extreme degrees of heat and cold to which the man had been exposed by plying his trade as an oven-builder. In 1877 Dr. Mott divided the nerve, but the pain returned after a short time. In 1878 Dr. Hassloch gave large doses of salicylic acid and quinia, with but temporary benefit. Subsequently Dr. Weir brought about a remission of three months by subcutaneous injections of $\frac{1}{60}$ gr. of aconitia, repeated every two hours. Dr. Gerster then proposed and performed Langenbeck's osteoplastic section of the superior maxilla, with displacement of that bone and removal of the nerve. Two incisions were made—the first along the lower border of the malar bone, beginning in the nostril and terminating at the middle of the zygoma; the second beginning at the nasal process of the frontal bone, following the lower margin of the orbit and joining the first incision on the zygoma. The masseter was dissected from its attachments, and the soft parts were separated from the bone as far as the pterygo-palatine fossa, and, by means of a key-hole saw, the superior maxillary bone was divided parallel to the hard palate and into the nose. The infra-orbital nerve was now exposed in the line of the upper incision, and cut through at its exit from the infra-orbital foramen; after this the eyeball was pushed upward, and, the key-hole saw being introduced through the infra-orbital fissure, the zygomatic arch was cut through. The floor of the orbit was now carefully chiselled through, care being taken not to injure the lachrymal duct, and, by introducing a lever into the cut in the malar bone, the exsected piece of the bone was turned out, hinging upon its soft attachment to the nasal and frontal bones. Thus, the nerve glided out of the infra-orbital canal, and was cut away at the foramen rotundum. The wound was now disinfected with an eight per cent. solution of chloride of zinc, the bone was replaced, superficial sutures were applied, and, after six weeks the wound was healed. This method was preferable to the one practised by Carnochan, as it gave ample room for manipulation, and a very clear insight.—*New York Medical Journal*, September, 1882.

OPERATIVE TREATMENT OF OZÆNA.—Ozæna is often due to a contraction of the nasal cavities, whereby the free passage of air and thorough washing out of the secretions are prevented. In order to overcome this, VOLKMANN removed, with a chisel, a portion of the middle turbinated bone in two young girls suffering from this affection. Great improvement resulted.—*Deutsches Med. Woch.*, August 19, 1882.

SOME RECENT DEVELOPMENTS IN ANTISEPTIC SURGERY.—To those whose acquaintance with antiseptic surgery dates back to the time when the carbolic dressing of Lister was first introduced, and can remember the rigid ritual enjoined in its use, the last substance added to the surgeon's armamentarium must be the source of some quiet amusement. It appears that, about two years ago, a man applied to Dr. G. Neuber, assistant in the clinic of Prof. Esmarch in Kiel, with the story that, eight or ten days earlier, he had suffered a severe accident to the forearm, which had resulted in extensive laceration of the soft parts, rupture of the wrist-joint, and fracture of both bones of the forearm. The first dressing applied to this severe compound and complicated fracture was a thick coating of mould from the moor on which the man was at work. After burying the limb in this, a rough wooden splint was applied. When, ten days later, the man came into Kiel, he appeared to be in good general health; and, after the astonished surgeons had thoroughly removed the whole of this primitive dressing, they found that the wound was free from suppuration—in some parts already united by first intention, in others granulating in a satisfactory manner. Struck by this brilliant result, Dr. Neuber proceeded to investigate the antiseptic qualities of turf-mould. These qualities were already being recognized in other quarters. It had been found that the turf, which is of a remarkably fibrous and friable character, acted as a powerful deodorizer of fecal and other like offensive substances. A series of experiments in the use of the mould as a surgical dressing were made, and the experience gained may be thus summed up. The turf-mould reduced, as we gather, to a powder, is enclosed in gauze bags which have been thoroughly washed in carbolic acid solution. The bags are made of two sizes, and the mould in the smaller is mixed with iodoform in the proportion of 2.5 per cent.; the mould in the large bag is saturated with a solution of carbolic acid (5 per cent.). In applying the dressing, the wound is first washed with carbolic or with chloride of zinc lotion, or powdered with a little iodoform. The small bag is then placed over the wound; over that a large bag is adjusted; and both are retained in place, and an equable pressure kept up by a gauze bandage. The dressing was used by Prof. Esmarch in fifty-five cases, among which were included seven resections and osteotomies, five amputations, twelve extirpations of tumors, and two herniotomies. The results were most satisfactory. The only death was in a case of advanced tabes dorsalis, where the operation of nerve-stretching was followed by pyæmia. In thirty-one cases there was no fever at all; in only five cases was it necessary to remove the dressings, owing to either local or general disturbance; and, as a rule, they were left in place for a fortnight. The advantages claimed for the mould are, briefly, that its absorbent power is so great that wounds remain perfectly dry under its use; that it absorbs the products of decomposition, and probably checks their formation; that the pads are very soft and elastic, easily adapting themselves to the surfaces of the limbs and trunk; and that, finally, turf-mould affords the cheapest known antiseptic, since it costs only about one-ninth as much as carbolic gauze (Listerian) dressings. In a second communication, Dr. Neuber gives the results in a second series of cases, among which were instances of ovariotomy, hysterotomy, and operations for floating kidney. This second series of seventy-eight cases resulted in but three deaths, due respectively to tetanus, to delirium tremens, and to gangrene of the leg after resection of the knee in a "bleeder." Where it is proposed to leave the dressing undisturbed for a fortnight or more, Dr. Neuber applies glass bandages externally.—*British Medical Journal*, August 26, 1882.

HYSTERO-LAPAROTOMY DURING PREGNANCY FROM A FALSE DIAGNOSIS.—REIMANN (*Centralb. f. Gynecol.*, No. 15, 1882) reports the case of a Jewess, aged thirty-two

with a tumor which the attending physician diagnosed as ovarian. At the first examination, he thought he detected signs of pregnancy, but later could not find them. A surgeon was called to operate, and after careful examination did so, supported by two statements, first, that of the woman that she had had no connection with a man for over a year, and second, that of the assistants, who (falsely) stated that the physician had introduced a probe, and found the uterus not enlarged. The operator made a small abdominal incision, introduced two fingers, and as there were no adhesions, punctured the supposed tumor, when, to his astonishment, there was a gush of liquor amnii, and on introducing the finger, parts of the child in utero could be felt. There was no longer any doubt. The uterus was laid open, its contents removed, and the wound sewed up. The child, eight months, lived about fifteen minutes. The mother died on the third day of peritonitis. The case has been brought to trial by court, and is not yet ended.—*American Journal of Obstetrics*, September, 1882.

ANTAGONISM BETWEEN SYPHILIS AND VACCINIA.—In the *Gazette Hebdomadaire*, M. POLIN, a public vaccinator in one of the military districts, states that in nearly every instance in which a child suffers from hereditary syphilis, vaccination will fail.

ERGOTINE IN TYPHOID FEVER.—The treatment of typhoid fever by the subcutaneous injection of ergotine, as recommended by Dr. Dubone, continues to be noticed in *Le Journal de Médecine et Chirurgie*. The last case described is of a young woman, three to four months pregnant, in whom the treatment was begun on the eleventh day of the disease, when there was much tympanites, diarrhœa, bronchitis, and dyspnœa, and when continuous delirium had given place to semi-coma. The morning temperature was 104° F. Ten centigrammes of ergotine were injected daily for six days. The first injection was followed by a copious general papular eruption of the size of a millet seed. The temperature fell to 101.5° F., and did not again rise above 103° F. The other symptoms underwent corresponding amelioration, and the temperature became normal on the seventeenth day of the disease.

Four days after the discontinuance of the ergotine the patient aborted without any unfavorable symptoms. The fact that the abortion in this case took place so long after the omission of the ergotine, and the history of another case in which one and a half to two grammes of ergot were administered daily for two weeks to a pregnant woman without causing miscarriage, seem to confirm the harmlessness of this drug to persons who are pregnant.—*Boston Medical and Surgicat Journal*, August 31, 1882.

SUDAMINA IN TYPHOID.—M. ALBERT ROBIN has examined the liquid of sudamina in a case of typhoid fever, in which the eruption was so abundant the vesicles were confluent, and formed bullæ of considerable size, some of them being as much as a centimetre in diameter. More than three grammes of liquid were collected from them. It was transparent and colorless, but on standing, a deposit formed, consisting of whitish flocculi, and at the same time the liquid became opalescent. It had a slightly acid reaction, and a strong, unpleasant odor. The microscope showed only a number of fine globules of fat and some epidermic cells. It contained neither albumen nor sugar, and was not rendered opaque by the addition of alcohol. No uric acid could be discovered in it by the murexide test. An analysis showed that it contained a considerable quantity of chlorides, but no trace of sulphates or phosphates; the proportion of water was 982, of solid matter 18, per 1000: the solids consisting of 14 parts of organic and 4 of inorganic substances. Hence the amount of organic material eliminated by the perspiration in typhoid must be regarded as considerable.—*Lancet*, August 26, 1882.

HERPES OF THE HANDS AS A MENSTRUAL ERUPTION.—JANOVSKY and SCHWING (*Centralb. f. Gynecol.*, No. 17, 1882) report the case of a woman, unmarried, thirty years old, who had always had difficult menstruation from her fourteenth year; in 1873 had inflammation of the internal genitals, after which, to 1880, she was perfectly well except a deep-seated pain in the right side. At the end of 1880, patient came under author's treatment on account of renewed, severe difficulty of menstruation. Right-sided ovaritis was diagnosed and greatly benefited by treatment. In April, 1881, on the second day of menstruation, a skin affection began on both hands, accompanied with sharp burning and itching and slight constitutional disturbance. On the palmar surface of both hands, especially the left, the skin was red and swollen. This was limited strictly to the palmar surface and bounded by the wrist-joint, the tips of the fingers, and the middle line between palmar and dorsal surfaces. The diffuse swelling lasted one and a half to two days. On the then paler skin little vesicles appeared, as large as pin-heads, isolated, or only in parts confluent. Gradually they filled up, their contents became purulent, they dried into crusts and dropped off. The whole process, which was quite severe, lasted a month. Four menstruations passed without its recurrence. In September it came on again, much lighter, again more marked on the left hand. This lasted two weeks. At the next menstruation only the left hand was affected. For five periods it remained away, and in May of this year again appeared, and again especially on the left hand.

The eruption is a herpes. There was no herpes of any of the membranes and no neuralgia accompanied it. The authors have seen many exanthemata connected with menstruation, and especially a symmetrical erythema papulatum on the flexor surface of the upper and lower extremities, and in this connection they consider the present case of interest.—*American Journal of Obstetrics*, September, 1882.

THE SUBCUTANEOUS ADMINISTRATION OF CATHARTICS.—A. HILLER has made a number of experiments, with a long list of cathartics, and concludes that the hypodermic method possesses no advantage over the internal administration of cathartics, either in the dose required, the time required or in the avoidance of disagreeable symptoms.—*Centralb. f. die Med. Wissen.*, August 19, 1882.

DISLOCATION OF THE CERVICAL VERTEBRÆ, WITH SPONTANEOUS REDUCTION, AND FRACTURE OF THE STERNUM.—At a recent meeting of the Clinical Society of Maryland, DR. MICHAEL exhibited specimens from a case of dislocation of the cervical vertebræ with spontaneous reduction and fracture of the sternum without external manifestation, in the same patient. The subject of the injury was an Italian seaman, æt. 40, who fell into the hold of a vessel. Paralysis ensued below the level of the nipple. There was intermittent priapism persisting until near the end. Nothing was discovered along the spine to indicate lesion there, but there was evidently a grave lesion of the cord. There was no tender spot on the vertebræ, but pain was complained of in the cervical region. Respiration was carried on entirely by the diphraghm. Death ensued on the third day. *Post-mortem:* No lesion found up to cervix. There had been a dislocation of the fifth on the sixth cervical vertebra which had been reduced in the movements of the patient. The anterior common

ligament was disconnected from the sixth cervical vertebra, the ligamenta subflava were destroyed; the intervertebral substance between the fifth and sixth vertebræ was entirely destroyed. The cord was inflamed and compressed and its lower part congested. The sternum was found fractured on its posterior surface where the periosteum was ruptured; anteriorly the periosteum was not ruptured. There was no evidence of injury of the sternum during life. The lung had been lacerated and the mediastinum was emphysematous. The urine had to be drawn with a catheter.—*Maryland Med. Journal*, Sept. 1, 1882.

CURIOUS MALFORMATION OF THE URETER.—In the *Lyon Médicale*, for June 4, 1882, M. SOLLER reports a remarkable case of incontinence of urine that came under observation in M. Laroyenne's service at the *Clinique des Maladies des Femmes de la Faculté de Médecine de Lyon*. The patient was a girl, eighteen years old, who was found to have a supplementary meatus urinarius, situated below and to the right of the normal meatus. A small catheter could be introduced about 10 cm., and a few drops of normal urine escaped through it, although at the time the bladder was full of urine, which the patient was able to retain. The dropping from the supplementary channel continued after the bladder was emptied with the catheter. A strong solution of fuchsin was injected into the bladder, but the urine which continued to drop from the abnormal meatus was not colored, and analysis showed it to be absolutely normal. The opening was closed temporarily with a catch-forceps, and, on removing it the next day, a considerable quantity of urine escaped, being projected in a jet to a distance of more than 15 cm. In view of these facts, M. Laroyenne diagnosticated an abnormality of the right ureter, which, he supposed, either pursued its course direct to the false meatus, or else bifurcated before penetrating the bladder, and sent a branch to the locality mentioned.—*New York Medical Journal*, September, 1882.

ELECTRICAL STIMULATION OF THE UTERUS.—The influence of electricity on the uterus, whether empty or gravid, is a point on which authors have made various statements. This difference of opinion may be due to the circumstance that the conclusions have been drawn from the somewhat uncertain field of clinical observation. M. DEMBO, in a note presented to the Académie des Sciences by M. Vulpian, has endeavored to decide the question by experiments on animals. His observations at present relate only to the non-gravid condition. In the rabbit direct faradization of the uterus or of one of its cornua causes a contraction at the point to which it is applied, and which extends for a distance of about twenty millimetres, but never reaches the other cornu. If one electrode is applied to each cornu, both can be made to contract in the neighborhood of the poles, but not in the interval between them. Very different, however, is the effect when the application is made to the vagina. If both electrodes are applied to the vesical wall of the vagina, a manifest contraction is produced in both parts of the uterus, vermicular in character, passing from below upwards. If the application be made to the lateral portions of the vaginal wall, a contraction is produced only in the corresponding cornu. Local contractions on the corresponding side can be produced by placing the electrode on certain points in the broad ligament, but the contraction never extends to the whole uterus. It is impossible to produce contraction of the non-gravid uterus by faradization applied through the abdominal wall. The excitability of the uterus of the rabbit was found to vary according to the age of the animal, and according to whether it had borne young or not. That of a young animal is so irritable that manifest contractions are excited by mere exposure to the air, but in old rabbits the uterus is much less susceptible. In some dogs and cats no contraction of the empty uterus could be obtained by faradization, in others slight contractions with distinct pallor were produced. Faradization of the vaginal wall caused pallor of the mucous membrane, and also of the whole uterus, due apparently to contraction of the vessels, but no contraction of the substance of the uterus. Frankenhauser found that stimulation of the aortic plexus caused a manifest contraction of both cornua, and it is highly probable that an analogous nervous plexus is situated in the vesical wall of the vagina. The observations were made on animals under the influence of either chloral or curara.—*Lancet*, August 26, 1882.

IODOFORM AFTER-TREATMENT AND PERMANENT IRRIGATION IN GYNECOLOGICAL OPERATIONS.—SCHUCKING (*Centralb. f. Gynecol.*, No. 13, 1882) believes that iodoform stands in the first rank as an antiseptic for the after-treatment of wounds in gynecological operations. Its energetic, continued, and yet unirritating disinfective action, its easy application to regions where Lister's method is impossible, the fact that under its use the wounds, especially in plastic operations, may be "left alone" for a long time, all render it an important acquisition to our pharmacopœia. It can never do away with the use of antiseptic methods during operations, or undermine in any degree the necessity of Lister's full process. In all Schücking's cases, Lister's method has been carried out in full, and the wounds were washed with a five per cent. carbolic solution before the application of the iodoform. In three prolapse operations in which the vaginal wounds were extensive, the surface of the wound was brushed with iodoform, and then ten to fifteen grms. of the powder shaken into the vagina and allowed to rest quiet for three days, when irrigation was begun. After enucleation of a large uterine fibroid, the whole wound was stuffed with iodoform and cotton. In a laparotomy, the stump was covered with iodoform, and three to four grms. allowed to get into the abdominal cavity. The patient remained free from fever, and in two weeks left her bed. Other cases show that there is no danger of absorption of the remedy. In some cases the drug was used in the form of suppositories made by the formula of Mikulicz (iodoform 90, solution of gum and glycerine āā 5). These were especially useful in abscesses, cancer of the cervix, etc. The terrible smell of the drug can be entirely covered by tonka bean, or, better, by cumarin, a very small quantity of the latter being sufficient to deodorize a large amount of iodoform. The pulse is slightly accelerated by the use of the drug. In conclusion, too much must not be claimed for or expected of the drug, but with other methods carefully carried out it does us great service.

Schücking has devised an apparatus to make permanent irrigation more simple and more applicable to general practice, where the use of bed-pans, the wetting of the bed, etc., have been almost insuperable objections to it. It consists of a sort of short speculum, closed externally, except three small openings. Through the upper of these passes a finely perforated metal catheter, which lies in the vagina and is connected by a screw to the speculum—through the next a short tube to the interior of the speculum. Both of these join externally, and are connected to the irrigator by rubber tubing. The lower opening has a short tube externally, which is attached by tubing to the drip pail. In this way but little water escapes in the bed. Irrigation is usually begun with solution of carbolic acid, but when this (as is generally soon the case) has to be given up, the au-

thor prefers a ten per cent. solution of sulphite of soda. —*American Journal of Obstetrics*, September, 1882.

EXPERIMENTAL INOCULATION OF SYPHILIS IN THE IRIS AND CORNEA OF THE RABBIT.—Previous experiments by HAENSELL and others have established the fact that the introduction of tuberculous matter into the anterior chamber of the rabbit will cause an eruption in the iris of tubercles identical in appearance with the tubercular growths which occur in the human iris. The author has now (*Von Graefe's Archiv*, xxvii., 3) made similar experiments with syphilitic matter, for the sake of comparison between the two morbid processes.

The cornea and the anterior chamber were inoculated in different experiments with the thin purulent contents of a syphilitic gumma of the sternum, with small portions of mucous tubercles of the anal region, and with similar portions of an indurated but non-ulcerated prepuce. Immediate inflammatory changes occurred in some cases, presumably from the introduction of septic matter together with the syphilitic virus, but the process of the syphilitic infection was clearly traceable notwithstanding; it was most characteristic, however, when these extraneous effects were absent.

Four days after inoculation of the anterior chamber, absorption of the foreign substance was complete, and the eye had apparently recovered its normal state; then, after an incubation of about four weeks a subacute iritis set in with turbidity of the aqueous, ciliary injection, discoloration and swelling of the iris, and posterior synechia; some days later vascular nodules appeared upon the iris, such as are seen in syphilitic iritis in the human subject. In one case, at a later period of the disease, larger nodules formed in the ciliary body; these, on account of their larger size and late appearance, may be regarded as true gummata.

After inoculation of the substance of the cornea the period of incubation was rather longer; at the end of six weeks, when only a slight opacity at the site of the puncture remained, several small vascular nodules began to develop.

Post-mortem examination of the animals some months after the inoculation showed in some cases many small hardish nodules in the lungs and liver, which under the microscope were found to consist chiefly of round cells and larger many-nucleated epithelioid cells, together with a few giant-cells.

The differences observed between the syphilitic process and that which followed the inoculations of tubercle were these: the incubation-period of the syphilitic virus was longer than that of the tubercular, and the whole course of the disease much more chronic in character; the syphilitic nodules were finely vascularized throughout, while the tubercular masses were devoid of vessels; the syphilitic never underwent caseous degeneration, while in the tubercular this constantly occurred.

The products of this syphilitic inoculation were found to be capable of successful inoculation upon other animals.

Attempts to inoculate the anterior chamber of the rabbit with lupus failed.—*Ophthalmic Review*, Sept. 1882.

ACTION OF QUINIA AND SALICYLIC ACID ON THE EAR.—In order to ascertain whether the noises in the ears produced by salicylic acid and by quinine are due to a congestion of the labyrinth, Dr. KIRCHNER has instituted some experiments in the pharmacological laboratory at Würzburg. The noise in the ears is sometimes accompanied by giddiness and deafness, which, usually ceasing when the medicine is discontinued, sometimes persists as a serious malady. Kirchner employed in his experiments rabbits, cats, dogs, and guinea-pigs. His conclusions are that both these agents cause hyperæmia of the tympanum, which may go on to hemorrhage, and that the whole of the labyrinth participates in the congestion. It may become so intense that, if it lasts long, it will cause of necessity an alteration in the nerve filaments, and it may lead to exudation. This congestion he regards as produced by a vaso-motor mechanism. In this conclusion, however, another series of observations made by Weber-Liel and Guder does not agree. They observed carefully the symptoms produced in certain healthy individuals by a moderate dose (fifteen grains) of quinine, and noted, during two hours and a half, a gradual fall in the temperature of the external auditory meatus, corresponding to the diminution in the general temperature of the body. No hyperæmia could be detected in the meatus, the membrana tympani, or the handle of the malleus, either during this period or later. On the contrary, in five cases a slight hyperæmia which existed previously was found to disappear. The subjective noises in the ears come on at the end of an hour or an hour and a half, and continue for ten or twelve hours, while the deafness comes on one or two hours later than the tinnitus, and is greatest at the time that the general temperature of the body is lowest. Similar experiments were made with salicylic acid. Four or five grammes of salicylic acid caused a diminution in the temperature of the external auditory meatus, which falls in the course of two or three hours to 95°. No indication of congestion could be discovered, and, as in the case of quinine, previous hyperæmia became lessened. Noises in the ear came on later and lasted longer than in the case of quinine. The deafness is very marked, and continued in some instances for several days, and in some cases, in which there existed previous ear disease, the loss of hearing was more prolonged, enduring in one case for nine months. In more than half the cases giddiness came on a little after the subjective symptoms. Comparing the effects of salicylic acid and quinine, it appears that the former causes a less considerable depression of temperature and a more prolonged diminution in hearing. It is difficult, therefore, to ascribe the aural effects either to congestion or to anæmia, and if these observations are reliable, it would seem to be due to a primary nervous influence.—*Lancet*, Aug. 26, 1882.

THE TREATMENT OF INTUSSUSCEPTION.—In the September number of the *New York Medical Journal and Obstetrical Review*, DR. W. R. GILLETTE, Physician to Bellevue Hospital, relates a case of intussusception in a child nine months old, relieved by injections of water, the administration of chloroform by inhalation, and manipulation of the tumor felt through the abominal wall. This, he states, is the third case of intussusception in infants which he has seen, and which he has been able to reduce by these means. He thinks that these cases, from the philosophy of their condition, and the necessary measures for relief, are best managed in the way indicated. In two other instances, in which he saw and advised this treatment, reduction was utterly impossible under the other methods tried. The children in each of these cases were held while struggling, and the injections forced into them against all voluntary and involuntary efforts which they could make. He deems the administration of chloroform almost absolutely necessary in these cases. The reason is not difficult to find, inasmuch as, while it gives us such perfect control of the patient, it also eliminates the element of muscular spasm. Moreover, massage is a powerful adjuvant to the hydrostatic pressure of water in these cases. In the first two cases the obstruction was not overcome until massage also was employed.

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SEA-BATHING.

ANY one having the least acquaintance with life at the sea-coast feels quite competent to guide himself, and to advise others, concerning sea-bathing. This general confidence of judgment is by no means justified by the results—for every year lives are lost, and the foundation laid for future ill-health, by injudicious resort to sea-bathing. A sad illustration of this fact was recently narrated to us by an experienced physician practising at a sea-coast summer resort. A delicate boy of eight was sent by his physician from the interior to the coast to be braced up by contact with the ocean waves. On the evening of the arrival of the party with the child at the sea-shore, he was taken into the ocean, notwithstanding the temperature of the water was down to 47° Fahr. The child was violently opposed to the bath, but, notwithstanding his shrieks and protestations, was immersed repeatedly. When taken out of the water at last the poor boy was blue and cold, and presently became cyanosed; his pulse grew feeble and irregular, his respiration shallow, and reaction failed to come on, death ensuing in a few hours.

Although the instance just related is an extreme one, it is certain that many cases occur in which the reaction from the bath is ineffectual, latent diseases excited into activity, and various morbid states induced. It is equally certain that great good is accomplished by the right use of sea-baths. It is, then, most desirable to have a clear conception of the physiological effects of sea-bathing, of its limitations, and of the rules to be followed in applying such a remedy.

Without entering into details which possess no novelty, it may be said that a sea-bath is a cold-bath, plus the influence of the place, the air, the shock, etc. To retire to the sea-shore is to cut loose from accustomed associations, and to create new ones under novel conditions. At the sea-shore the air is more stimulating, and the animal sense of existence—the mere delight of life and being—is enhanced. The out-door amusements, the stimulating air, ocean pleasures, increase the appetite, and the power of digestion and of assimilation grows correspondingly. Oxidation in the organism is more rapid and efficient, and hence the forces of life in all directions receive a new impetus. Such conditions are most favorable to the influence of the sea-water. On the peripheral expansion of the sensory nerves, the cold sea-water makes a fierce impression; the vessels suddenly contract; the heart is slowed; the skin is blanched; the lips are blue, because of the imperfect respiration, and oxygenation of the blood; and the breathing is shallow, catching, and incomplete. The blood retires from the periphery and accumulates in the internal organs, and lowered by the abstraction of heat from its superficial layer, the temperature of the whole mass of blood descends below normal. Presently a change in the condition of the body ensues. In from five to ten minutes, according to the constitutional vigor, the reaction comes on. Then the respiration becomes free, full, and easy, the circulation grows active, the contraction of the superficial vessels is replaced by dilatation, the blanched surface gives way to a warm flush, the blue of the lips is supplanted by a deep carnation, and the coldness yields to warmth, the surface temperature of the body rising. If the bather leaves the water when the reaction is fully established, he experiences a grateful glow—a sense of warmth and well-being—tranquility of mind, drowsiness, and a feeling of contentment and comfort, growing out of the more active performance of the organic functions. Sea-bathing we may well regard as a powerful reconstituent or tonic remedy, when the circumstances are favorable, and no contra-indication exists.

The good results which may be obtained from sea-bathing, are not more conspicuous than the evils which arise from its abuse. The contra-indications are obvious. Those ought not to undertake sea-bathing who are not strong enough to react promptly. If the reaction is slow, the good to be obtained is more than doubtful. If the reaction is imperfect, more or less depression of the vital forces must follow—for the rapid abstraction of heat, the lessened movement of the heart, the jerking and shallow breathing, are not compensated for by the increased heat production, the deeper respirations, and the quickened circulation of the blood which follow the

first period of depression on entering the water. Those who experience ill results from imperfect reaction, suffer from occipital headache, backache, and muscular soreness generally; the appetite becomes poor, the digestion feeble; they sleep poorly if they do not get into a condition of wakefulness, and ultimately grow into an anæmic state with much bodily weakness.

A weak heart from fatty walls or dilatation of the cavities, is a serious contra-indication of sea-bathing. On entering the water, the surface blood, having lost some of its proper heat, is suddenly precipitated on the heart, inducing, it may be, a prompt paralysis of the organ. Atheromatous cerebral vessels are equally dangerous, for when the superficial arteries contract, the intra-cranial blood pressure rises in a corresponding degree. An instance of remarkable lack of judgment on the part of a physician, recently came under our observation, *apropos* of this subject. A gentleman of sixty-five having well-marked atheroma of the vessels, and who had experienced a short time before an attack of thrombosis of a cerebral artery, followed by right hemiplegia, was advised a course of sea-baths at a point on the coast where the temperature of the water is always low! Fortunately the patient had a well-grounded apprehension that some mischief would result, if he carried out the advice given him, and refrained from bathing.

A sea-bath should not be entered soon after a meal, and it is equally injurious after a long fast. The body should not be heated by active exercise, just before entering the water, and a state of bodily fatigue is not less hurtful. Some moderate walking exercise, to call out the energy of the cardiac and respiratory centres, is useful as a preliminary. Only the most vigorous persons, accustomed to the sea, should plunge at once into the water, immersing the whole body. The less vigorous should content themselves with a gradual immersion. Active movements, as far as practicable, should be carried on whilst in the water, and when reaction is fully established the time has come for leaving the bath.

Sudden and unexpected deaths in the water are by no means uncommon. We hear of expert swimmers, in good health, seized with some surprising disability, and sinking unobserved or failing without apparent cause, before rescue can reach them. The condition known as "cramp" may explain some of these instances. When the muscles are kept in vigorous action in such a medium as sea-water, they labor under a tremendous disadvantage. The heat of the body is continually and rapidly abstracted; the superficial portion of the blood cooled, the action of the heart is thereby depressed, and the nervous centres in general perform their functions less energetically in consequence. Sudden paralysis of the muscular system might, under such circumstances, readily occur. Some of those in apparent health, who indulge in sea-bathing, have damaged organs, weak hearts, adherent pericardium, atheromatous vessels, etc., morbid states of the existence of which they may be entirely unconscious. The shock, the depression, and the reaction, awake the unsuspected malady to a sudden activity. Sudden deaths, unaccountable as they appear, are thus explained.

In suitable cases sea-bathing renders an incontestable service. That lowered condition of the vital forces due to sedentary habits and an indoor life, is greatly improved by sea-bathing. In no state is this remedy more conspicuously serviceable than in chronic malarial poisoning with the attendant phenomena. In simple lithæmia sea-bathing promotes oxidation and the elimination of the products of waste. The group of strumous diseases, incipient phthisis, if there is strength enough for vigorous reaction, nervous dyspepsia, simple wakefulness without cerebral lesion, etc., are amongst the maladies in which the best results may be expected from sea-bathing.

CONVALLARIA MAIALIS.

MUCH attention has recently been excited in France over publications made by MM. VULPIAN and SÉE, in regard to the remarkable properties of an alkaloid obtained from *Convallaria maialis*. This is a beautiful annual plant, belonging to the asparaginaceæ, and its common name is "Lily of the Valley." According to Huseman, Valx, so long ago as 1830, isolated two glucosides—*convallamarine* and *convallarine*. In 1865, Stanislas Martin obtained an alkaloid *maïaline*, and an acid, *maïalic acid*, an essential oil, coloring matter, etc. The active principles seem to be maïaline and convallamarine, the other glucoside being inert or nearly so. The extracts of the root and of the leaves have emeto-cathartic properties. The preparation with which the experiments of Prof. G. Sée were made, after many investigations by Hardy, consisted in an aqueous extract of the different parts of the plant, from which the purgative resinous principle was removed. This extract is solid, of a brilliant black color, agreeable odor, very bitter taste, and soluble in all proportions in water and alcohol. The ordinary dose of this extract used in the treatment of cardiac affections is 50 centigrammes (about 8 grains). Hardy has obtained convallamarine in the amorphous state, and, thus prepared, it is a principle comparable in activity to pure digitaline, which it resembles in its mode of action, although there are differences.

Convallaria is readily taken, does not produce nausea, and rather stimulates than depresses the

appetite. The evacuations are somewhat more numerous, although diarrhœa does not occur. On entering the blood, it has an immediate effect on the heart, the vessels, and the respiration. It slows the heart by exciting the cardiac terminations of the vagus, but the irritability of the inhibiting nerve is not lost, for electric excitation of the vagus still arrests the movements of the organ. It increases the blood pressure, whilst it augments the power of the heart. It increases the depth of the inspirations, and improves the sense of respiratory well-being. Its diuretic action is prompt and considerable, and, after it is discontinued, the increased action of the kidneys is maintained for several days. The relative proportion of the urinary constituents is maintained at the normal standard.

Notwithstanding its remarkable action on the heart, convallaria does not disturb the functions of the nervous system in any way.

According to Prof. Sée, the indications for the use of this remedy are—

Palpitations, which are due to depression in the functions of the pneumogastric nerve;

Simple irregularity, with or without lesions of the valves, or orifices, or with or without hypertrophy;

Mitral obstruction, uncompensated, and mitral insufficiency, especially when there is a venous stasis in the lungs and dyspnœa, with or without neuroses of the respiratory organs;

In dilatations, with or without hypertrophy or fatty degeneration, or sclerosis of the muscular tissue;

Finally, in all cardiac affections accompanied by general œdema or dropy. It does not long remain in the system, and hence there is no danger of accumulative action. Prof. Sée regards it superior to digitalis in all of the conditions above mentioned, especially as it does not distress the stomach, and affect the cerebral functions, and does not exhaust the irritability of the inhibiting apparatus.

At the meeting of the Therapeutical Society of Paris, of July 12, some additional facts, supporting the statements of Prof. Sée, were reported by MM. Moutard-Martin and C. Paul, especially the remarkable diuretic property of the remedy in cardiac dropsy was brought out.

MEDICAL ADVERTISING.

APROPOS of the expulsion of a member from a Chicago medical society, for publishing his card in a newspaper and paying for it, the *Times* of that city proceeds to discuss medical advertising from a non-professional standpoint. It calls attention to the fact that no person in the community but a physician has his business, profession, or occupation mentioned on his visiting cards; that no one else expects to have them specified when he is introduced to a stranger; and that, with few exceptions, no one else designates them when he writes his name on a hotel register. It asserts that while the advertising columns of a newspaper are closed to the enterprising practitioner, the society columns are open, and his name, title, and residence can be given in full every time "he goes fishing, visits his mother-in-law, or sprains his ankle." He may also, with ethical propriety, according to the *Times*, write and publish communications on impurities in drinking-water, or on germ theories of disease; he may say how swimming-schools should be conducted, or discuss any other subject presumably of public importance; and he never forgets to sign not only his own name, but the name of his occupation and his place of business.

The *Times* argues, in more serious vein, that in a large city it is very desirable to know the names of physicians in particular vicinities, and the hours which they devote to calling on patients, and that no code of ethics should forbid a person the right to inform an intelligent public in relation to matters it desires to become acquainted with.

Such information is, however, in every large city easily attainable. The general directories and special lists of physicians may be consulted at any drug-store, and are much more complete than the advertising columns of a newspaper are ever likely to be.

Were there no other objections to placing professional and business advertising on the same footing, its tendency would inevitably be degrading, from the fact that, while the merchant or manufacturer may with all propriety and modesty call attention to the excellence of his wares, the professional man in doing so is glorifying himself—never considered a gentlemanly or a praise-worthy employment.

"Where boasting ends, there dignity begins."

As to the term "doctor," its restriction to practitioners of medicine and surgery, and its habitual use by them and by the public, as a distinguishing designation, is, to some extent, an Americanism, and is probably due to the fact that, while in this country, every respectable physician must be a doctor of medicine, the lawyer is not always a doctor of laws, and the clergyman is but rarely a doctor of divinity. Originally, a merely honorary appellation conferred upon certain masters of arts, it was extended first to law, and then to divinity, but it was not until the fourteenth century that, either in England or on the continent, it began to be conferred in medicine. It has not been monopolized by our profession here or elsewhere, nor employed for purposes of display, or gratuitous advertisement, but is simply an involuntary recognition by the pub-

lic of the absorbing nature of the practice of medicine, and of the devotion to it which is so almost universally manifested by its followers.

We may admit, however, that it is just possible that, as to some of its points, the *Times* had a glimmer of reason, and it might be well that medical societies should watch other than the advertising columns of the newspapers.

CHOLERA AND OTHER QUARANTINES.

THE Ottoman Board of Health has constructed a huge lazaretto for the accommodation of six thousand pilgrims, with hospitals, offices, staff of doctors, inspectors, etc., on the island of Kamaran. This island is about 150 miles north of Bab-el-Mandeb. It contains about forty square miles, has an abundance of good water, and is in every way suitable for a quarantine station. The regulations of the *Conseil International de Santé*, published June 20, 1882, require vessels to touch at the island for medical inspection, when, if there is no sickness on board, they are quarantined for five days, during which the pilgrims, their clothes and baggage, and the vessels are submitted to disinfection. But the suspicion of choleraic disease entails a quarantine of observation, lasting from ten to fifteen days, when, if no further developments occur, the pilgrims are permitted to proceed on their journey. With cholera present on the vessel, the hospital service is brought into requisition, and the quarantine prolonged until it is considered safe for the vessel to leave.

An institution of this kind is an obstacle in the westward pathway of cholera from which we, in America, will derive undoubted benefit. Lazarettos and quarantines began in the far East, and from the extent of the recently established station and the character of its rules it is evident that they have profited by experience. At the same time it is obvious that we have no great reason to consider ourselves advanced in matters of this kind, because New York quarantine guards the neighboring ports, or Ship Island acts as a diverticulum to the local quarantines of the Gulf. In progress of time, if our health boards are fostered, we may be able to repel the attacks of exotic disease. Year by year we are gaining experience, but we pay needlessly high for it. Next year Texas will probably organize a State Board, or make some arrangement to guard the line of the Rio Grande.

PETROLEUM IN DIPHTHERIA.

DR. LAMARRE, of Saint-Germain, has lately employed petroleum oil topically, with very encouraging results in an epidemic of diphtheria. Archambault has tried it in the Children's Hospital, but without any obvious advantage. In two severe cases it was used, with the result that one died and the other recovered. In the case which recovered there were albuminuria, engorgement of the cervical glands, and nasal diphtheria. Petroleum is a rapid solvent of the false membrane, and must possess distinct advantages under some circumstances. This fact, coupled with its antiseptic property, renders it a promising remedy, although its odor always renders its use disagreeable. It has accomplished sufficient results to justify its further use. We believe that it has been applied more or less in this country, but we are not aware of any published results of the treatment.

FIRE ESCAPES AGAIN.

SOME time since we called attention to the need of fire escapes for hospitals as well as other public buildings. We have just learned of a plan which seems to us so remarkably good that we call attention to it in the earnest hope that it may be widely adopted. In the Ontario Mill, now building by Mr. William Arrott, in Kensington, a tower is placed at each end of the building, and is used as the only means of access to the mill. No doorways or other openings exist between the mill and the towers, but all ingress and egress are by outside iron platforms passing around from the towers to the mill. These may be in the rear and so not be an unsightly feature.

The towers are capable of excellent architectural treatment, so as to add to the appearance of the mill instead of detracting from it; the operatives are accustomed to it by daily use, and have no new experiment to try when bewildered by fire, and it would seem to be entirely safe. It combines, so far as we see, all the advantages and none of the disadvantages of other plans, except that of being perhaps a little more costly than some of them.

For hospitals this would appear to be peculiarly adapted, both hygienically and architecturally.

THE TREATMENT OF ACUTE STHENIC PLEURISY.

DR. GUYON has recently tried the various plans of treating pleurisy on an extended scale, and his results are embodied in the following propositions:

Acute sthenic pleurisy must be treated energetically at the onset of the disease, as the expectant plan is dangerous.

The Arabic method, which consists in withholding all fluids, and using alterants to promote absorption, gives bad results.

Diuretics, purgatives, and sudorifics are uncertain measures, and do not in themselves constitute a method of treatment.

Applied at the beginning of the malady, wet cups suppress the pain, diminish the dyspnœa, and apparently arrest the progress of the exudation, and are

to be preferred to blisters, which are, indeed, contraindicated at this period of the disease.

When a marked degree of gastro-intestinal catarrh exists, emetics and cathartics are usefully added to other antiphlogistic measures.

The duration of an acute pleurisy treated by mercurials is relatively long, and the patient is exposed to unpleasant accidents.

During the febrile state thoracentesis should not be practised unless the effusion is so great as to endanger life.

If the medical treatment has been without result, it is well to puncture after the fever has ceased, and not depend on absorption, whether it be expected to take place spontaneously or under the influence of revulsives.

In view of the above, may we not inquire if it has been wise to abandon venesection altogether in cases of acute sthenic pleurisy? Have not effusions, serous and purulent, been more frequent and extensive since venesection has not been employed?

REVIEWS.

MITTHEILUNGEN UEBER FRAGEN DER WISSENSCHAFTLICHEN MEDICIN. Von WILHELM KOCH in Dorpat. Heft I., Beiträge zur Lehre von der Spina Bifida. PAPERS ON QUESTIONS IN SCIENTIFIC MEDICINE. Part I., SPINA BIFIDA. 4to. pp. 62, pl. 5. Theodor Fischer Kassel, 1881.

THE author enters very exhaustively into his subject both as to the pathology and the literature of the subject. The only wonder is that he did not also give a complete bibliography of the subject, which would have rounded it out. The style is obscure and difficult. Indeed, we have not run across so many obstacles in German for a long time as in this book. It is in five parts, treating respectively of myelocele or hernia of the cord, and dropsy of the subarachnoid space; congenital fissure of the vertebral arch, rachischisis posterior; anterior fissure of the vertebræ, rachischisis anterior; meningocele; and finally the treatment of those forms amenable to art, viz., myelocele, meningocele, and certain limited forms of fissure. He condemns the usual mode of reporting every form of such allied disorders under the generic name of "Spina Bifida," and especially in relation to treatment. Tables such as Wernitz's, in which no proper distinctions are made, are, therefore, practically worthless. Evidently he has little faith in Brainard's method of iodine injections, or of Morton's modification of it, and prefers, according to the case, plastic operations, exsection of a piece of skin, subcutaneous ligature of the neck of the sac, etc. For details the reader must wrestle with the original.

THE NEW HAND-BOOK OF DOSIMETRIC THERAPEUTICS, OR THE TREATMENT OF DISEASES BY SIMPLE REMEDIES. By DR. AD. BURGGRAVE. *Translated by* HENRY ARTHUR ALLBUTT, M.R.C.P.E., etc. Pp. 208. With a Frontispiece—a portrait of Dr. Burggrave. London: David Bogue & Co.

WE are asked to believe that the Dosimetric System is a new method. In the confines of 208 pages, Dr. Burggrave unfolds the mysteries of his "system," but when we have patiently examined the data given by him we find nothing new but terms. Instead of crude drugs, small and often repeated doses of active principles are used, but in their applications we discover no new facts or methods. If the book were put forward as an appeal for a more rational method of administering our remedies, the motive for its appearance would be ample. But under the present auspices, and supported by the high pretensions of its advocates, dosimetric medicine has a quackish appearance. The irregularity is still further apparent in the way in which the medicines are to be obtained. "No granules are genuine or reliable, but those manufactured by M. Charles Chauteaud, the eminent Parisian pharmacist," says Dr. Allbutt in his preface.

Whilst we have only commendation for all enlightened efforts to improve the administration of drugs, we must express our strong disapproval of the groundless pretension and false teaching of this work. Dosimetric, we doubt not, is an effort to offset homœopathic, and to curry favor by scientific pretensions which have no real foundation.

COLLES'S FRACTURE. By J. F. KNOTT, L. K. and Q. C. P. I., etc. A paper read before the Surgical Society of Ireland, January 12, 1881, and reprinted from *The Medical Press and Circular*. 8vo. pp. 25. Dublin: John Falconer, 1882.

THE first thing that strikes us in examining this essay is the fact that the title is spelt right, and leaves no excuse for the careless but common mistake of calling this "Colley's" fracture. The next is the use of the inexact expression "from above and behind downwards and forwards," in describing the line of fracture. In speaking of the radius, this might be understood to be with the hand in extreme supination; but it would be better if authors used the unmistakable terms "palmar" or "dorsal aspect," especially as we observe that this one once uses the word "anterior" when the arm must be in pronation and the dorsal aspect of the radius in front.

Next we come upon a reference to the "*arch*" of a segment of a circle and its "*cord*." After which we enter a zone of French terms: "*coup d'œil*" and "*mouvement de la bascule*," with "lezarde or baillement of architectural ornamentation," and "*coup de hache*," fractures "*par écrasement, penetration* (no accents), and *arrachement*," together with deformities "*en Z*." Does the author not know how to put these into good English? or does he fancy the whole medical public has the same easy and familiar acquaintance with the French language which he appears to have? If not, is it to prevent the ignorant from feeling too much shamed that he prints "*abduction de totalite, en etoile*," etc., without accents, and over and over again, "*médicine*" for *médecine?*

So much for the manner of the author. His matter is quite different, and of such excellence that we regret to find it burdened with the lapses from good literary style to which we have alluded.

The substance of the paper is an account of the various views that have been held as to the nature and mechanism of fractures near the lower end of the radius. The author quotes Continental and American opinions, in addition to those of British writers, and concludes his review of the subject with this sensible observation: "An examination of all the facts and theories which we have collected on this subject will, we think, leave no doubt on (*sic*) the mind of any unprejudiced inquirer that a great variety exists in the form, and probably, also, in the mechanism of pro-

duction, of the fractures of the lower end of the radius. . . . I have not myself come forward as an advocate of any one hypothesis, for I do not believe that any one can be manipulated so as to adapt it to all cases; nor do I attempt to teach any new theory; for I think there is no room left for further innovation, and those with which we are already acquainted, if judiciously applied, will be found amply sufficient."

We would have enjoyed it more if a less meritorious paper had given us the opportunity to speak our mind freely against the use of foreign words when there are plenty of English ones just as good. At the same time we are glad to be able to make some amends for our criticism of the author by acknowledging the genuine worth of what he has written, and commending its perusal to the many young men now engaged in writing works on surgery.

CORRESPONDENCE.

LETTER FROM BRUGES.

Bruges, Memling, and the Hospital of St. John.

BRUGES is the Pisa of Flanders. It has receded from the sea, so to speak, and, like a stranded vessel, is being slowly consumed by the gnawing tooth of time. Its docks, where vessels once discharged curious cargoes from every foreign port, are dried up and covered in with houses; its various canals are choked with seaweeds; its once thronged streets, paved to last for ages with blocks as solid as those of Pompeii, now re-echo the rumble of the solitary vehicle, and the great open squares, upon which assembled the citizens of an opulent metropolis in rejoicing, in commiseration, or in vindication of their rights, are all deserted save by the peasantry in their quaint garbs, or the occasional traveller who hurriedly takes in Bruges on the way from Ostend to Brussels. One may thoroughly feel, but find it hard to describe the sense of desertion, the air of melancholy which pervades the place.

But the lovers of art must always pay a visit to Bruges to look upon the mediæval architecture of Flanders, which distinguishes this city more than any other in all the low countries, and more especially to study the history of painting in the works of the earliest masters of that art. Outside of the museums the old European traveller naturally looks for many of these wonderful works in the churches, and even the unbeliever must be grateful to the church, not only for the source of their inspiration both in matters of faith and finance, but also for their careful preservation through ages of vandalism and image destruction. But here in Bruges some of the very finest specimens are to be found in an entirely unexpected place, namely in the hospital. The story goes—pity that it is not true—that Memling was carried wounded to the hospital, and that he left all these marvellous works in gratitude for his restoration. But however they got there, here they are still as fresh as when they left the master's hands some four hundred and fifty years ago, and a handsome revenue they must make in the course of the year to the resources of an institution which really does not need it, as it is already so richly endowed.

One must speak of the pictures in attempting to describe the old hospital of Bruges, as it is impossible to get a proper idea of it, except from some of the pictures which portray it as it was half a thousand years ago. For the old hospital has been long since abandoned for a new one built next to it upon the grounds, somewhat, though not much, more modern in its style, a quadrangular structure containing twenty-four wards, with room for about six hundred sick, enclosing an open court which is pleasingly laid out in garden form.

How far back into time the history of the old hospital goes, nobody here seems to know. But here it stands now, on the outside at least, just as it was in Memling's time—a great irregular mass of buildings, like a venerable abbey, with turrets and towers, niches and shrines, crumbling, moss-grown, gray with age, but still in such preservation as to be good for a century or so to come. On the inside it looks like one of the old mediæval churches, enough like it to have been one in its day, with pillars and arches and pavements all of solid stone. Twenty feet from the floor the windows begin, and then run up arching at the top to the ceiling, with little panes of green glass like those in an old Gothic church. The beds, as is seen in one of the old pictures in the chapel or room in which the whole collection is shown, were arranged like the bunks in the steerage of a ship, in two rows, one above the other (the upper being arrived at by ladders), between the short pillars which support the heavy arches along the middle of the hall, and in two additional rows along the side walls. A more unwholesome, subterranean-like arrangement could not have been devised, But here it was that Memling, the great artist, was sick; for here he is shown in another picture engaged at his work, and being visited in state by Mary of Burgundy, with her maids of honor, who are in turn being regarded with admiration by the good sisters and brothers in charge of the house. These pictures are not regarded as works of any artistic merit, and are spoken of very slightly by the usher who can not understand the construction of a visitor who dwells upon them with many pertinent, which he evidently regards impertinent, questions; but these old pictures stowed away in a bad light are of far more interest to the medical historians than the shrine of Ursula and the slaughter by the brutal soldiery of the eleven thousand *virgines intactæ*, which it so graphically portrays. For these two old pictures complete the history of the old hospital, and it is fortunate that they still exist, for nobody about Bruges knows anything about the old hospital more than is contained in these few lines. The doctors here looked upon your correspondent rather as a kind of morbid specimen for evincing any curiosity about the old hospital building, and they could give no reference to any possible source of information. When I saw the iron rings in the operating-room for the reduction of dislocations still in use, and curtains everywhere drawn close about the beds in the present hospital wards, I was not surprised at the general Rip Van Winkle air which surrounds the place. At the library I had equal bad luck. There was a solitary antiquarian rummaging about the ancient literature, and he informed me that he did not think I could find anything concerning the hospital, unless among the musty archives of the church. This much, however, I did glean at last; that when the *sans culottes* of the French revolution came over and turned everything upside down, they took the hospital away from the church, and ever since that time it has been in the hands of the city government, which now appoints the hospital staff. But there is need of another revolution, a *bouleversement* as complete as the first, to bring the hospital at Bruges up to the standard of modern times.

J. T. W.

BRUGES, August 22, 1882.

VIRULENCE OF HUMAN SALIVA.

To the Editor of THE MEDICAL NEWS.

DEAR SIR: I am glad to learn from Dr. Formad's letter of August 1st (MEDICAL NEWS of August 12th), that the reporter, and not my esteemed friend, is responsible for the "inacurate statement" which I found it necessary to correct, in the interest of truth. Of

course, I have no fault to find with Dr. Formad for drawing his own conclusions from the experimental data which I have published, but I can not help thinking that his memory is at fault with reference to the facts recorded, and especially with reference to my own deductions from these facts.

I trust, however, that yourself and your readers will not imagine that in addressing you a second communication upon this subject, I am actuated by a controversial spirit, and propose to occupy your valuable space in an effort to prove the infallibility of the writer. This would, indeed, be a difficult and unprofitable task, as I do not myself accept any such dogma. But I do believe in the logic of facts, and, although well-attested facts often appear to contradict each other, I believe that such contradiction is only a superficial one, and that it may always be reconciled by a fuller knowledge, as *there are no contradictions in nature*.

The case of Dr. Formad's "buck-rabbit," which is "to-day perfectly well and happy" after having been subjected to a long series of experimental inoculations, is a case in point, and I think it may be made profitable to your readers by using it to call attention to the subject of protective inoculations, a subject of great interest to physicians and one which deserves to be fully studied by the experimental method.

But first permit me to answer briefly the points made by Dr. Formad in the following quotation from his letter:

"Dr. Sternberg was the first, etc. . . . . But his experiments are not extended enough to prove his conclusion that the lethal effects are due to a poison *peculiar* to the saliva; and, moreover, by no means warrant his deduction that only certain saliva has poisonous effects, and that some saliva lacks such properties, viz., does not kill rabbits."

I answer (*a*) that I have never claimed that the lethal effects of human saliva, upon rabbits, are due to a poison "peculiar to the saliva;" and (*b*) that my recorded experiments and the experiments detailed by Dr. Formad in his letter—case of the buck-rabbit—show conclusively that all human saliva is not fatal to rabbits. In my first report to the National Board of Health (*Bulletin*, April 3, 1881), I say injections of a small quantity of surface-mud from the gutters of New Orleans invariably produced fatal results within forty-eight hours.

In the report referred to I presented in detail the experimental evidence which led me to the conclusion that the virulence of human saliva is due to the presence of a micrococcus constantly found in the fluid. This conclusion is sustained by subsequent experiments made by myself and by the experiments of Dr. Claxton.

This deduction rests upon experimental evidence of the same kind as that upon which anthrax is proved to be due to a bacillus, fowl-cholera to a micrococcus (Pasteur), and septicæmia in the mouse to a minute bacillus (Koch). But I have not claimed and do not believe that the micrococcus found in human saliva, and to which it owes its virulence, is *peculiar* to this fluid. On the contrary, I believe it to be widely distributed in nature, and think it not improbable that it may be found in the saliva of animals. I should therefore be greatly indebted to Dr. Formad if he will publish in detail the experimental data which induce him to formulate the generalization that "*any and all saliva kills certain rabbits*." Certainly a very extended series of experiments is required to sustain this generalization. I am particularly anxious to know whether the saliva of herbivorous animals has been found as virulent as that of the carnivora; whether the saliva of monkeys is as virulent as that of man, etc.

I am not prepared to accept Dr. Formad's explanation, which ascribes the marked difference in the results of experimental inoculations to a difference in susceptibility of the animal experimented upon, rather than to a difference in the fluid injected. For I have ascertained by repeated experiments, made at different times and places, that my saliva kills rabbits infallibly within forty-eight hours, with certain exceptions which I have noted in my report of experiments with disinfectants.[1]

I quote from the last-mentioned paper: "I can no longer say *infallibly* produces death, as in several instances death has not occurred *in rabbits previously injected with saliva mixed with certain substances*—alcohol, quinia—*which when added to it in a certain proportion prevent the fatal results*, but do not prevent an impression being made by the mixed injection, which seems subsequently to protect the animal from the lethal effects of injections of saliva alone."

The following experiment is quoted from my report first mentioned in illustration of this statement:

"*May 24, 1881.*—Injected into a large rabbit (*the subject of a previous experiment*, May 13, in which a negative result was noted, and in which 0.5 c.c. of virus treated with 1 per cent. solution of sodium hyposulphite was injected) 1.25 c.c. of virus, not disinfected, from a rabbit recently dead. Result negative."

This virus—bloody serum from a septicæmic rabbit just dead—was proved by other experiments to be fatal to *unprotected* rabbits in the smallest quantity, but this animal suffered no harm from so large an amount as 1.25 c.c. Is it probable that the remarkable immunity shown by this animal, and by the buck-rabbit referred to by Dr. Formad in his letter, is due to an accidental idiosyncrasy, and that the previous injections had no importance. Dr. Formad records that his rabbit "*had been largely dosed by his friend Claxton, with saliva of some kind*."

I would remark as follows upon the record given of this case:

"1. Human saliva (second time)." The first inoculation, or the previous inoculations by Dr. Claxton, accounts for the protection which this animal enjoyed from subsequent inoculations, and the fact that the animal did not die after the first injection of human saliva, is evidence in support of my statement that all human saliva does not kill rabbits.

"2. Cancer-juice." Numerous experiments made in Dr. Formad's laboratory, show that cancer-juice is innocuous. Dr. Wile reports as the result of twelve experiments, that "the animals were kept under observation for one year, and careful autopsies revealed no trace or effect of the injected juices.[2]

"3. Epidemic diphtheritic material from Michigan." Numerous observers have recorded the presence of micrococci in material of this kind, which appear to be morphologically identical with those found in the normal buccal secretions. May not this be a pathogenic variety of the common form, which has the power of penetrating mucous membranes, and giving rise to fibrinous exudation, and necrosis of invaded tissues, instead of remaining in the buccal cavity as a harmless parasite, nourished by the salivary secretions, and shed epithelium constantly present in this locality? If this is the case, we can understand how the previous injections of normal saliva protected this animal from suffering any ill-effects from this, and subsequent injections of diphtheritic material.

We have abundant experimental evidence that protective inoculations may be practised in various forms

[1] Nat. Board of Health Bulletin, July 23, 1881, p. 22, and in a paper published in the Am. Journal of the Medical Sciences, July, 1882, p. 73.

[2] Phil. Med. Times, Aug. 12, 1882, p. 771.

of septicæmia, *e. g.*, anthrax, fowl-cholera, swine plague;[1] and an "attenuated virus" (Pasteur) may be obtained by various methods, *e. g.*, method of Pasteur by long exposure to oxygen, method of Toussaint by short exposure to a temperature of 52° Cent.[2]

My own experiments indicate that in the form of septicæmia in the rabbit, which I have specially studied, various chemical agents, which in a certain proportion completely destroy the potency of the septic virus, may in a certain less proportion modify its virulence, and that thus an "attenuated virus" may also be produced, the introduction of which beneath the skin of the rabbit results in protection from the effects of lethal doses of unmodified virus.

But it is not necessary that artificial inoculation with "attenuated virus" should be practised in order that a rabbit may enjoy protection from infectious septicæmia. Accidental inoculation may occur, or the rabbit may suffer a non-fatal attack as the result of contact with other septicæmic animals, or from being placed in infected cages. Davaine[3] long since recorded the fact that spontaneous septicæmia occurred among his rabbits from this cause, and I have myself lost a number of rabbits in the same way,[4] while others of the same lot recovered after a brief illness, and subsequently proved to be protected from the lethal action of septic virus.

Finally, I would say that my conclusions have not been drawn from a small number of experiments, and that I have carefully compared the results obtained by myself from human saliva, *my own*, with those reported by Braidwood and Vacher, in which lochial fluid undergoing putrefaction and other septic material were injected into rabbits.[5] My experiments with disinfectants, alone, cost the lives of more than forty rabbits, and careful post-mortem examinations in nearly all of them fully confirmed the observations previously detailed in my first report (a fatal form of septicæmia, etc., *l. c.*) as to the presence of the micrococcus, the diffuse cellulitis extending from the point of inoculation, etc.

I have not yet found time to follow up the investigation relating to protective inoculations; but, as this is a question of great importance from a practical point of view, I take the liberty of making two or three suggestions for the benefit of those who may have better facilities for pursuing experimental work than I enjoy at present.

Will the introduction into the body of a susceptible animal of the chemical products evolved during the growth of septic organisms—Anthrax bacillus, bacillus of Koch's septicæmia in the mouse, micrococcus of fowl-cholera, micrococcus of induced septicæmia in the rabbit—furnish protection as well as a living "attenuated" virus?

Will an attenuated virus of any of these forms of septicæmia furnish protection against others in the list?

Will the hypodermic or internal administration of any of the known germicides cure an animal which has been inoculated with a lethal dose of a septic virus? and if so, in what quantity must such agent be used to produce the desired effect?

Yours, very truly,

GEORGE M. STERNBERG, M.D.,
Surgeon U. S. A.

FORT POINT SAN JOSE, SAN FRANCISCO,
August 26, 1882.

[1] Experiments of D. E. Salmon, D.V.M., Report to Committee of Agriculture, 1880, p. 489.

[2] C. R. Ac. des Sciences, t. xciv. p. 1694.

[3] Bull. de l'Acad. de Méd., 2 s., t. viii. p. 121.

[4] Experiments with Disinfectants, etc., *l. c.*

[5] Am. Journal of the Medical Sciences, July, 1882, p. 69.

A SPLINT TO REPLACE THE STROMEYER.

To the Editor of THE MEDICAL NEWS.

SIR: In your issue of August 26, I noticed under the head of *New Inventions*, a description of "a new splint to replace the Stromeyer," by Dr. W. W. Keen, of this city.

Six months ago I had a patient suffering from anchylosis of the elbow-joint, for the relief of which she had been using Stromeyer's splint. Although able to extend the arm with it, I found upon flexing that the splint produced so much excoriation of the skin and pain from pressure on the nerves and bloodvessels at the joint, that it was abandoned as useless.

I had a splint constructed that not only enabled me to flex the arm fully (a feature lacked by Stromeyer's), but remedied the trouble referred to. Instead of a hinge the boards are connected on either side by two pieces of iron riveted together, leaving a space of three inches between the two splints, thus relieving the joint of any pressure. To the arm-piece is secured an iron plate with a brass head, split and drilled through at right angles. To a plate on the forearm splint is connected a long eight-sided brass nut, held in place by a movable collar that enables the nut to accomodate itself to any angle. The screw, secured above by a pin, passes through the nut, and the latter by turning to the right or left, gives either flexion or extension, as may be desired.

Respectfully yours,

A. H. DE YOUNG, M.D.

PHILADELPHIA, 242 N. FIFTH ST.,
September 5, 1882.

NEWS ITEMS.

PUBLIC HEALTH NOTES.—THE YELLOW FEVER EPIDEMIC at *Brownsville* continues unabated. During the past week the bulletins have announced fifty or more new cases daily, with only two or three deaths. The small mortality is unprecedental in the history of yellow fever. As the population only amounts to about 5000, the disease must soon begin to die out for want of material. The non-intercourse quarantine and guard to prevent the escape of refugees from the infected district has succeeded in confining the disease, but those who have been cooped up to await the expected attack must have felt that these sanitary arrangements are somewhat one-sided. Many, no doubt, have camped out for safety in the adjoining country, as did the people of Memphis in 1879. The garrison of Fort Brown moved several miles up the Rio Grande and have escaped visitation. An early flight from the infected locality, termed by the sanitarians "depopulation," appears to be a good thing for those who are left, as well as for those who get away: the number remaining to be sick and cared for is reduced. The United States soldiers and marines at Pensacola embarked for Mt. Vernon Barracks, Alabama, on the day after the presence of the fever was officially promulgated. The navy-yard quarantined against the city, and late advices from Surgeon A. M. Owens, United States Navy, shows the quarantine to be effective.

The spark which smouldered in *Pensacola* from on or before the 28th ultimo, giving only one or two new cases daily, flamed up suddenly on the 7th inst., when ten cases were reported. This was followed by twelve on the 8th, and sixteen next day, when the city authorities proclaimed the disease epidemic. From the onset to the 11th inst. there have been recorded ninety-two cases and seventeen deaths. A heavy gale and rain storm prevailed on the 9th inst., but did not seem to have any special influence on the progress of the disease.

The City Board of Health continues its efforts to control the spread of the fever by disinfection and isolation. Application was made to the National Board of Health for coöperation and assistance, and estimates for services and supplies were made and forwarded to Washington on the 7th instant, but mail disinfection in Alabama delayed their arrival. We understand that they reached Washington this morning (12th instant), but we have not learned their contents.

The following weekly summary of the progress of yellow fever is furnished by the Surgeon-General of the Marine-Hospital Service, compiled from official reports for the week ending September 9, 1882:

BROWNSVILLE, TEXAS.

Dates.	Cases.	Deaths.
September 3d and 4th,	148	10
" 5th,	67	1
" 6th,	49	2
" 7th,	48	2
" 8th,	57	4
" 9th,	57	3
	426	22
Previously reported,	1,113	66
Total during epidemic,	1,539	88

The number of deaths at Brownsville on the 7th instant was stated in the daily report for that date at ten. The number was two. The incorrect figures were the result of a telegraphic error.

The protective cordon on the Arroyo and river has been effectual up to the present time, and the outer cordon will be dissolved in a few days, as ample time has been given for the appearance of fever between the lines. The ranches will each be inspected from the outer to the inner cordon by the quarantine guards. Authority is awaited from the Governor for the beginning of this work. The Arroyo cordon will be strengthened during the week and persons allowed to pass after ten days' detention and fumigation of clothing. An inspection station has been established at Santa Maria.

PENSACOLA, FLORIDA.

Dates.	Cases.	Deaths.
September 3d,	0	0
" 4th,	1	2
" 5th,	1	0
" 6th,	0	1
" 7th,	9	0
" 8th,	12	2
" 9th,	16	3
Total for week,	39	8
Previous cases uncertain,	0	5
Totals,	39	13

No measures have been instituted in Florida by the Treasury Department for the suppression of the disease, as it was only on Saturday that yellow fever was declared epidemic by the Pensacola Board of Health, and no request has been made for aid.

CHOLERA.—There are rumors at present of the occurrence of cholera in several of the large European cities, but they are probably based upon sporadic cases of virulent character simulating Asiatic cholera, such as have recently been reported in this country in Michigan and at Newport, R. I. The only specific advices which affect us in the United States, are from Yokohama, Japan, where the disease has been existing in an aggravated form since April 28th of this year. For the two weeks ending August 10th, there were 616 new cases and 345 deaths, making, since the commencement of the epidemic, a total of 2193 cases and 1362 deaths. A few cases have occurred among British sailors who have had liberty on shore, but with this exception the disease is confined to the native population. At Tokio and Osaka, the epidemic is equally virulent. Hitherto cholera has reached us from Europe, but the possibility of an attack on the other flank should be borne in mind by our California brethren.

THE ADDRESS OF PROF. GEORGE F. BARKER, of the University of Pennsylvania, on "The Question of Life," delivered before the American Association for the Advancement of the Sciences, has been translated into French, and published in the *Revue Scientifique*, for August 19, 1882.

GALEN'S WORKS.—An important literary and scientific discovery is announced from Salonica. The works of the celebrated physician, Galen, which were supposed to have been lost, have been discovered by M. Papageorges. They are in manuscript; date from the fifteenth century, and appear to have originally formed 248 sheets; 144 are in good condition, 24 are mutilated or worm-eaten, and 80 are missing.—*Brit. Med. Journ.*, August 19, 1882.

PERSONAL.—PROF. GERHARDT has been called to Heidelberg to fill the chair left vacant by the death of Prof. Friedreich.

PROF. ROSSBACH has been called to Jena in Nothnagel's place.

PROF. V. BERGMANN has received the title of Privy Medical Councillor, and PROF. BARDELEBEN the title of Supreme Privy Medical Councillor.

IMMIGRANT-INSPECTION SERVICE OF THE NATIONAL BOARD OF HEALTH.—DR. J. H. RAUCH, Supervising Inspector, presents the following report of the operations in the western district during the month of August:

An aggregate of 16,014 inspections were made by the seven assistant inspectors, who performed 3,125 vaccinations upon immigrants found to be either imperfectly or not at all protected by previous vaccination or attack of smallpox. This is in the ratio of about twenty per cent. of vaccinations, as against sixteen per cent. during the months of June and July.

It is not to be inferred from this, however, that the proportion of unprotected immigrants was larger than in the previous months. On the contrary, increasing evidence has been found, throughout the month, of greater care and vigilance on the part of steamship surgeons generally, and of some of the inspectors east of this district—notably at Port Huron, Michigan—and a much larger proportion of recent vaccinations has been met with as the result of this care and vigilance.

An analysis of the inspectors' reports shows the highest ratio (nearly thirty-eight per cent.) of vaccinations to inspections to have been made among immigrants arriving *via* Baltimore. And this is due to the cause indicated in the last report, namely, the neglect of surgeons of steamers arriving at that port to enforce vaccination, although there has been a very decided improvement in this respect during the past month, as will be seen in the comments of inspectors quoted below.

The smallest ratio of vaccinations to inspections—in other words, the smallest number of unprotected immigrants out of a given number arriving in this district—is that among passengers by the Grand Trunk Railway. Only three and a half per cent. of these were found to need vaccination by the Illinois inspector, that work having been thoroughly performed by the inspectors at Port Huron. The ratio on this road has steadily declined from 36 per cent. in June to 8.3 per cent. in July and 3.5 per cent. in August. During the latter

part of the month *all* of the arrivals by this road were found to be protected.

Of the arrivals in this district during the past three months, observations go to show that 54 out of every 100 immigrants were protected against smallpox before landing in this country, in one of the three following methods; 3 out of every 100 by previous attack of smallpox; 43 out of every 100 by a mature successfnl vaccination; 8 out of every 100 by a recent successful vaccination or revaccination performed on shipboard.

Taking the whole season throughout, only 22 out of every 100 steerage passengers have been vaccinated on shipboard, but this number is nearly doubled for the latter part of August, when it rose to 41 in every 100. Of the vaccinations by the steamship surgeons, 36.7 per cent. are now successful, but there are still nearly two-thirds failures in the aggregate.

Less than 4 per cent. of the arrivals in Chicago are found to have been vaccinated at all eastern points, exclusive of Port Huron; at this latter station nearly 36 per cent. of those destined for Illinois and westward are vaccinated.

In the western district, thus far, a little over 96 per cent. of the unprotected arrivals have been vaccinated by the inspectors within the district, before entering or crossing the State—the 3 or 4 per cent. escaping vaccination being composed of cases where contra-indicating conditions existed, or where the operation was refused.

The necessity for this mode of excluding imported smallpox contagion has received signal confirmation during the month by two local outbreaks of the disease in Illinois, which show that, notwithstanding all the efforts made to secure the proper vaccinal protection of the State, there are still localities where the introduction of the infection is sufficient to discover unprotected individuals enough to cause considerable alarm.

In Jersey County 8 cases and 1 death, up to date of last report, had resulted from a suit of second-hand clothes bought in St. Louis, by a railroad hand, and brought to Elsah, where the first cases appeared in a family to which the clothes were taken to be washed. From Elsah it was carried to Jerseyville, where 3 cases have resulted among hands employed by the Wabash Railroad Co.

Ten cases have occurred near Harrisonville, Monroe County, the source of contagion being infected bedding, clothing, etc., thrown into the Mississippi River, and lodging upon an island, where the outbreak occurred.

With the above exceptions, there has been only one case of varioloid in the State (outside of Chicago) since June 23. The case referred to is that of a farmer returning to Paxton, Ford County, from France, with a cargo of imported horses. He was carried on a Danish stock boat, the *Friga*, and contracted the disease from a stock-man on board, who was suffering with a mild case of varioloid. The attending physician writes that "there was no examination in New York," and as the man did not travel as an immigrant, he, of course, escaped inspection by the service.

In Chicago there have been only 24 cases and 5 deaths during the month, and at the close of the month there were only 3 cases under treatment in hospital, and 2 in the city.

HEALTH IN MICHIGAN.—Reports to the State Board of Health, for the week ending September 2, 1882, indicate that rheumatism, typho-malarial fever, tonsillitis, and bronchitis have increased, that dysentery has considerably decreased, and that inflammation of the bowels and cholera infantum have decreased in area of prevalence.

Including reports by regular observers and by others, diphtheria was reported present during the week ending September 2, and since, at 11 places, scarlet fever at 6 places, measles at 3 places, and small-pox at 2 places, as follows: at Grand Rapids (one case, convalescent); August 28, in Sebewa Township, Ionia County (convalescents), August 30.

August 27, a case of cholera, resembling Asiatic cholera, was reported to have occurred in Adams Township, Hillsdale County. No other case has been reported.

THE ENGLISH DEATH RATE.—From the weekly return of births and deaths in London, and twenty-seven other large English towns, for the week ending August 19, we learn that the annual rate of mortality averaged 23.8 per 1000 of their aggregate population, which is estimated at 8,469,571 persons. The rates of mortality in the several towns ranged from 16.3 in Birkenhead to 33.4 in Nottingham, that of London being 20.5. The deaths in London during the week numbered 1528, and these included 5 from small-pox, 41 from measles, 40 from scarlet fever, 17 from diphtheria, 52 from whooping-cough, 11 from enteric fever, 1 from an ill-defined form of continued fever, 164 from diarrhœa and dysentery, 11 from simple cholera, and not one from typhus fever. Eighteen new cases of small-pox were admitted into the hospitals during the week. Small-pox also caused one death in Wolverhampton, one in Nottingham, one in Newcastle-on-Tyne, and three in Birmingham.

During the same week the death rate in eight principal towns in Scotland was 20.7 per 1000 of the estimated population; Perth giving the lowest rate, 17.2, and Paisley the highest, 32.1.

OBITUARY.—Died at Trieste on Saturday, September 9th, BENJAMIN F. GIBBS, M.D., Surgeon U. S. Navy. Dr. Gibbs was Medical Inspector on board the United States Steamer Lancaster, and had been ill some time when Trieste was reached. His death took place at the hospital, whither he was conveyed. Surgeon Gibbs was a native of New Jersey, from which State he was appointed Assistant Surgeon in 1858. His commission as Medical Inspector dated from March 17, 1876.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 4 TO SEPTEMBER 11, 1882.

HUBBARD, VAN BUREN, *Major and Surgeon.*—Orders to Fort Wingate, New Mexico, revoked. To report to Commanding Officer District of New Mexico for duty at Fort Stanton, New Mexico.—*S. O. 174, Headquarters Department of the Missouri, August 30, 1882.*

COMEGYS, E. T., *Captain and Assistant Surgeon.*—Assigned to duty at Fort Supply, Indian Territory.—*S. O. 174, Department of Missouri, August 50, 1882.*

CORSON, JOSEPH K., *Captain and Assistant Surgeon.*—Granted two months' leave of absence.—*S. O. 210, A. G. O., September 9, 1882.*

SHUFELDT, ROBERT W., *Captain and Assistant Surgeon.*—Now awaiting orders, to report by letter to the Commanding General Department of the South for assignment to duty.—*S. O. 209, A. G. O., September 8, 1882.*

TAYLOR, MORSE K., *Assistant Surgeon.*—Relieved from duty as Attending Surgeon at Detroit, Michigan.—*S. O. 157, Department of the East, September 9, 1882.*

WAKEMAN, WILLIAM J., *Assistant Surgeon.*—Assigned to duty at Fort Douglas, Utah.—*S. O. 91, Department of the Platte, September 1, 1882.*

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

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